Buddhist Meditation and the Science of Subjectivity

John Plass

June, 2012

TABLE OF CONTENTS

1 ABSTRACT

Since its beginnings, experimental psychology has maintained strong epistemic doubt about the accuracy and scientific validity of “first-person” accounts of subjective experience. However, over the last few decades, as questions regarding the relationship between neurocognitive processes and subjective experience have proliferated in the psychological sciences and philosophy of mind, so too have calls for the incorporation of scientifically rigorous methods for the direct analysis of subjective experience into the cognitive sciences. Recent arguments for such integration have called into question experimental psychology’s continued epistemic doubt about subjects’ knowledge of their mental states by pointing to the potential value and epistemic validity of rigorous approaches to the observation and analysis of experience such as those provided by Husserlian phenomenology and Buddhist meditative techniques. The theoretical underpinnings of both Husserlian phenomenology and Buddhist meditative techniques each contain their own justificatory reasoning for and methods for the verification of the epistemic validity of knowledge gained from the rigorous observation of experience. However, the question of the compatibility of these epistemic frameworks with that espoused by the cognitive sciences is a complex one.

Therefore, in the following discussion and analysis, we will discuss the various approaches which have been suggested for incorporating Husserlian phenomenology and Buddhist meditative techniques into the cognitive sciences in a manner which is both

methodologically fruitful and theoretically sound from the perspectives of all of the involved parties. Primarily, we will focus on the two most dominant of these approaches, broadly defined as "contemplative science" and "naturalized phenomenology," which have emerged as potentially fruitful examples of methodological systems which claim to provide methods of incorporating "first-person" observation and analysis of experience into the scientific framework in an epistemologically sound manner. While proponents of contemplative science promote the use of meditative techniques to refine the mind into a more accurate "instrument" for the observation of mental phenomena, natural phenomenologists promote the use of Husserlian phenomenology for similar purposes. From their beginnings and throughout their development, promoters and practitioners of both methods have recognized their complementarily and engaged in a large degree of cross-fertilization, resulting in further methodological development and collaboration.

In order to pay due credence to the mutually co-dependent development of these two systems, we will first describe the theoretical milieu from which naturalized phenomenology emerged, as it was the discussions surrounding this concept which created the theoretical basis for what would come to be known as "contemplative science." Thus, upon having first given a detailed analysis of phenomenological methods, their theoretical basis, and various approaches to incorporating this methodicologico-theoretical framework into the cognitive sciences, we will then turn to a discussion of how theorists involved with this research program viewed the potential role of Buddhist meditation within it. As we shall see, the potential value of Buddhist

meditative techniques within this context has been a central theme interwoven within discussions of naturalized phenomenology in the cognitive sciences from its start, leading some theorists associated with this approach to even argue that Buddhist meditation may be of more value to the cognitive sciences than Husserlian phenomenology.

Having explored the theoretical basis of this appraisal of Buddhist meditation, specific domains in which theorists have suggested that meditation could be of value in the cognitive science, and initial experiments which indicate the possibility of such research, we will be placed in a strong position to then understand and interpret the value of the theoretico-methodological approach known as "contemplative science." Unfortunately, as we shall see, although contemplative science emerged as a system of thought from the very same conceptual milieu which meditation-influenced modes of naturalizing phenomenology did – and, indeed, in many ways rests upon the theoretical legwork initiated by the theorists involved with those systems of thought – it in many ways fails to actually meet with the cognitive sciences theoretically and practically in the mutually beneficial manner which naturalized phenomenology does.

Finally, having explored the potential role of meditation in the cognitive sciences from the perspective of scientific theory and method, we will turn to an analysis of epistemological status of meditation in the Buddhist tradition. While current scientific research validates a number of the Buddhist tradition's claims regarding the epistemic value of meditation based

analysis of experience, a more thorough and sustained analysis of the neurocognitive effects of Buddhist meditative techniques is needed to fully verify their potential value in scientific research.

2 NOVEL APPROACHES TO SUBJECTIVITY IN SCIENCE

Over the last few decades, as questions regarding the relationship between neurocognitive processes and subjective experience have proliferated in the psychological sciences and philosophy of mind, so too have calls for the incorporation of scientifically rigorous methods for the direct analysis of subjective experience into the cognitive sciences.[1] While the arguments for such integration between "third person" and "first person" approaches to mental phenomena have become increasingly widespread, there have thus far been very few efforts to delineate a thorough and practical explication of how researchers might actually go about such a methodological integration.

At this point, two types of proposals, broadly defined as "contemplative science" and "naturalized phenomenology," have emerged as potentially fruitful examples of methodological systems which claim to supply both scientifically rigorous "first-person data" and the means for integrating that data into current neurocognitive research programs. While

---

[1] Overgaard, et al. , "An Integration of First-Person Methodologies in Cognitive Science"; Jean-Michel Roy, et al., "Beyond the Gap: An Introduction to Naturalizing Phenomenology", pp. 3 -14

proponents of contemplative science promote the use of meditative techniques to refine the mind into a more accurate "instrument" for the observation of mental phenomena, natural phenomenologists promote the use of Husserlian phenomenology for similar purposes. From their beginnings and throughout their development, promoters and practitioners of both methods have recognized their complementarily and engaged in a large degree of cross-fertilization, resulting in further methodological development and collaboration.[2] As a result, a multifaceted discussion of the value of the use of Buddhist meditation as a research tool for the first-person scientific study of consciousness has emerged. The goal of the following analysis is to gain a comprehensive understanding of these two research frameworks, their interactions, and their theoretical bases in order to evaluate their promise and potential pitfalls.

In order to understand and evaluate these contemporary proposals for scientific investigation informed by "first-person" methods and data, one must first understand the various ways that the relationship between subjective experience and scientific inquiry are conceived of by the proponents of these methods. By doing so, one can gain a clear sense of the purported methodological and epistemological shortcomings of past and current scientific methodologies which advocates of such methods aim to remedy, and therefore be placed in a

---

[2] C.f. Francisco Varela, et al., *The Embodied Mind*; Natalie Depraz, et al., *On Becoming Aware;* Evan Thompson, "Neurophenomenology and Contemplative Experience"; Antoine Lutz & Evan Thompson, "Neurophenomenology", pp. 49-50; Antoine Lutz, et al., "Meditation and the Neuroscience of Consciousness: An Introduction", pp. 523-528

position to judge the validity of both their critiques of prior methods and their suggested solutions.

Both phenomenologists and proponents of contemplative science argue that the stance taken towards subjectivity in predominant scientific practices and discourse is fundamentally flawed, albeit in radically different ways. On the one hand, B. Alan Wallace, the most outspoken supporter of contemplative science, contends that scientific research into subjective phenomena, including consciousness, has been inhibited by the scientific community's unjustified allegiance to the "metaphysical dogma" of scientific materialism.[3] He suggests that this undue eschewal of subjectivity can be remedied by the use of the mind itself, refined to a state of "attentional stability and vividness" through particular Buddhist meditative practices, as an instrument for the scientifically rigorous observation of the mind and mental phenomena.[4]

On the other hand, the phenomenological tradition's perspective on the relationship between science and subjectivity has been more complex, varied, and radical. It is clear from Edmund Husserl's early formulations of the phenomenological research program that he considered it phenomenology's task to provide a sound epistemological foundation for science,

---

[3] c.f. B. Alan Wallace, *The Taboo of Subjectivity*, specifically Part I, "The Ideology of Scientific Materialism", Chapter 6, "The Mind in Scientific Materialism", and Chapter 7, "Confusing Scientific Materialism with Science"

[4] B. Alan Wallace, "Training the Attention and Exploring Consciousness in Tibetan Buddhism"; *Towards a Science of Consciousness III* p. 441-442; c.f. also "A Science of Consciousness: Buddhism (1), the Modern West (0)"

philosophy, and knowledge in general through the detailed analysis of the internal structure of the acts of consciousness.[5] However, for Husserl and, as we shall see, for later phenomenologists, such a research program could not take the form of a scientific study of consciousness *as an object in the world* because such a method would presuppose the very epistemological and ontological stance which it attempted to critique, clarify, and potentially justify.[6]

In Husserl's analysis, such a project would require instead what he called the "suspension of the natural attitude" (i.e. *epoché*), in which the commonsense presupposition of an experience-independent objective reality populated by various knowable objects, including the knowing subject itself, is abandoned in favor of an experiential standpoint rooted in the "absolute self-givenness" of "pure" or "transcendental" consciousness.[7] Thus, Husserl's transcendental phenomenological method requires suspending the acceptance of the very onto-epistemological perspective presupposed and relied on by the natural sciences, including sciences that take the mind, the mental, or consciousness as their object of study.

---

[5] Gallagher and Zahavi, *The Phenomenological Mind*, p. 19, 22, citing Edmund Husserl, *Aufsätze und Vorträge*, pp. 13-14, 102, and *Logical Investigations II*, p. 170. An English translation of the first article cited in *Aufsätze und Vorträge*, "Philosophie als Strenge Wissenschaft" is available under the title "Philosophy as Rigorous Science" in Husserl, *Phenomenology and the Crisis of Philosophy*, pp. 71-147. See also Husserl's 1907 lectures, translated in *The Idea of Phenomenology*, for a clear statement of Husserl's early formulations of the epistemic goals of the phenomenological method. See pp. 36-37 specifically for discussion of phenomenology's relationship to science, subjectivity, and epistemology.

[6] Gallagher and Zahavi, *The Phenomenological Mind*, p. 22, Citing Husserl 1971/1980, pp. 152–153; 1970, p. 187

[7] Edmund Husserl, *The Idea of Phenomenology*, pp. 7-8, 33-40

Despite orthodox phenomenology's insistence on its incompatibility with the natural sciences, a small group of contemporary phenomenologists and scientists interested in phenomenology's potential for contribution to the psychological sciences have begun to promote various ways of "naturalizing" Husserlian phenomenology by integrating its methods and findings into the methods and explanatory framework of the natural sciences.[8] Like Wallace, proponents of naturalized phenomenology argue that the cognitive sciences thus far have failed to give a comprehensive account of the mental due to their failure to sufficiently account for subjectivity and the first-person perspective.[9] They argue that this situation can be remedied by incorporating Husserlian phenomenology into the research process of the psychological sciences by either (a) using the first-person data produced by phenomenologically trained subjects to develop novel theoretical categories to interpret correlated measurements of behavior and brain activity, or (b) placing independently derived phenomenological insights and scientific findings into a dialectical relationship of mutual refinement.[10]

In order to gain a comprehensive understanding of the research programs proposed by promoters of contemplative science and naturalized phenomenology, the following analyses will elaborate the philosophical underpinnings, theoretical claims, and methodological

[8] Dan Zahavi, "Phenomenology and the Project of Naturalization", pp. 332-333; "Naturalized Phenomenology", pp. 9-10
[9] Jean-Michel Roy, et al., "Beyond the Gap: An Introduction to Naturalizing Phenomenology", pp. 7-8
[10] Dan Zahavi, "Naturalized Phenomenology", pp. 9-10

proposals espoused by these projects. If successful, this analysis should allow for a fair and reasoned appraisal of their theoretical and methodological proposals.

2.1 NATURALIZED PHENOMENOLOGY IN COGNITIVE SCIENCE

In order to fully understand the proposals of those in support of "naturalizing phenomenology" we must gain a firm grasp of what phenomenology is in its classical formulation, what methods it espouses, and how the current proposals differ from traditional phenomenology theoretically and methodologically. In order to do so, the following sections will clarify the meaning of the term "phenomenology" in its technical sense (1.1.1), explain classical phenomenological methods (1.1.2), and elucidate contemporary proposals for "naturalizing phenomenology" (1.1.3).

2.1.1 TERMINOLOGICAL CLARIFICATION: PHENOMENOLOGY AS A SPECIFIC METHODOLOGY

One of the central issues complicating the discussion surrounding phenomenology's potential contributions to the natural sciences is a lack of consensus regarding the actual meaning of the term "phenomenology." On the one hand, especially in the psychological sciences and analytic philosophy of mind, the term is often used in a general non-technical sense to denote any first-person introspective description of the qualitative features of experience, the aspect of subjectivity which Thomas Nagel famously referred to as "what it is

like" to have an experience.[11] On the other hand, phenomenologists themselves use this term as a technical term to refer to the specific philosophical approach and set of methods developed by Edmund Husserl in the early twentieth century and further developed by such thinkers as Martin Heidegger, Jean-Paul Sartre, and Maurice Merleau-Ponty. While this difference in terminological conventions is not problematic in itself, it can become so when the two interpretations of the term become conflated or confused, leading to misleading characterizations of the phenomenological tradition as being an "introspectionist" endeavor based on a heterogeneous set of methods, or no clear methodology at all.

One example of this confusion can be found in the work of prominent analytic philosopher Daniel Dennett, who in his book *Consciousness Explained* criticizes the phenomenological tradition for employing an unreliable introspectionist methodology akin to those of the nineteenth century psychologists Wilhelm Wundt and Edward Titchener, and argues that phenomenology "has failed to find a single, settled method that everyone could agree upon."[12] On the contrary, as phenomenologists Shaun Gallagher and Dan Zahavi point out, all major contributors to the phenomenological tradition "have openly and unequivocally denied that they are engaged in some kind of introspective psychology," noting that the concept of introspection tacitly endorses a distinction between the "inner" mental and "outer" world

---

[11] Thomas Nagel, "What is it Like to Be a Bat?", pp. 435–450; Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind*, pp. 19-20

[12] Daniel Dennet, *Consciousness Explained*, p. 44

predicated on the very commonsense ontology which the phenomenological method explicitly aims to cast aside.[13] Gallagher and Zahavi stress that Husserl categorically rejected the suggestion that phenomenological intuition is a form of inner experience or introspection, and even argued that the very suggestion that phenomenology is attempting to restitute the method of introspection or inner observation is "preposterous and perverse."[14] Indeed, it seems that the transcendental phenomenological standpoint, with its refusal to (a) uncritically posit the independent existence of a knowing subject or known object,[15] (b) study consciousness and mental phenomena "empirically" as objects,[16] or (c) reduce the goal of understanding consciousness to anything less than the understanding of the conditions of possibility for objectivity,[17] is very clearly distinct from, and even antithetical to, introspectionism. As we shall see, contrary to Dennet's latter claim, it is this distinct philosophical stance which gives rise to the core set of methods which make up phenomenology's general methodical framework.

If we are to understand the goals of the project of naturalizing phenomenology, it is of the utmost importance to clearly distinguish its technical usage of the term "phenomenology" from the increasingly common generalized non-technical usage of the term. Over the last few

---

[13] Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind,* p. 21
[14] Shaun Gallagher and Dan Zahavi, The Phenomenological Mind, p. 21, citing Edmund Husserl, "Philosophie als Strenge Wissenschaft," p. 36, and *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy. Third Book*, p. 38. The relevant portion of "Philosophie als Strenge Wissenschaft" is translated into English in "Philosophy as Rigorous Science", pp. 183-184
[15]Husserl, *The Idea of Phenomenology*, pp. 7-8, 33-40
[16] Edmund Husserl, "Philosophy as Rigorous Science", pp. 171-174
[17] Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind,* pp. 23-24

decades, calls for the serious incorporation of "phenomenology," in the general non-technical sense, into the methods of the psychological sciences have grown increasingly prominent. For example, in his book *Consciousness Reconsidered* analytic philosopher Owen Flanagan promotes a research program in which pieces of evidence from cognitive psychology, neuroscience, and phenomenology *qua* qualitative experience are treated with equal respect as they mutually refine, revise, and reject various theories regarding mental phenomena.[18] Apart from Flanagan, one might also point to the works of John Searle, David Chalmers, Galen Strawson, Bernard Baars, and many more for similar lines of reasoning.[19] Despite their increasing prevalence, what is largely lacking from discussions on the necessity of such complementarian approaches is a detailed and broadly applicable account of a methodology for the scientifically rigorous collection and analysis of qualitative data within the framework of current experimental procedures. Conversely, it is precisely such a methodology which proponents of "naturalized phenomenology" aim to provide.

Importantly, it seems that paying increased attention to qualitative data without implementing a rigorous method for first-person data collection, representation, communication, and analysis would almost certainly lead to either unsatisfactory or problematic results. First of all, it is difficult to envision what positive developments cognitive

---

[18] Owen Flanagan, *Consciousness Reconsidered*, pp. 11-12
[19] Dan Zahavi, "Phenomenology and the Project of Naturalization", p. 333

science's increased respect for subjective experience would entail without the development of such a principled methodology. Subjective reports have consistently played a prominent role in cognitive science in that both subjects' verbal reports and non-verbal behaviors (e.g. button-pushes indicating their own cognitive states) are "routinely taken as evidence for the cognitive models postulated"[20] in experiments and legitimate sources for (a) the validation of other measures or experimental manipulations, and (b) the distinguishing of groups of data points for statistical analysis. Further, neuroscientists Anthony Ian Jack and Andreas Roepstorff argue that introspective observation and personal experience inform virtually every stage of research in the cognitive sciences, from "the moment we conceive of an experimental paradigm, through piloting and refinement, to the interpretation of results", including the formulation of theoretical constructs, the cognitive interpretation of behavioral results ('task analysis'), and discussions of the implications of experimental results.[21] Given these facts, it is difficult to imagine how the cognitive sciences could take subjective reports ungoverned by a strict methodological framework more seriously without falling victim to the two extremes of either uncritically accepting dubitable first-person accounts as legitimate data or retaining a methodological agnosticism about the accuracy of such data while nevertheless reporting it,

---

[20] Donald D. Price & Murat Aydede, "The Experimental Use of Introspection in the Scientific Study of Pain and its Integration with Third-Person Methodologies: The Experiential-Phenomenological Approach", p. 245

[21] Anthony Ian Jack & Andreas Roepstorff, "Introspection and Cognitive Brain Mapping: From Stimulus–response to Script–report", p. 333

neither of which would satisfy the end goal of a scientifically rigorous incorporation of first-person data into a scientific framework.[22]

Secondly, without implementing a principled methodological framework for the first-person scientific study of the mental, cognitive scientists risk introducing into their data or interpreting their data in terms of unjustified theoretical concepts derived from folk psychology, unsubstantiated psychological pet theories, or otherwise unfounded theoretical assumptions. If we are to take seriously the above analyses regarding the prominence of first-person reports, introspective observation, and personal experience in cognitive science, we must also acknowledge, as phenomenologists Shaun Gallagher and Dan Zahavi point out, that "interpretations of first person reports must be based on either the scientist's own first-person experience (what he understands from his own experience to be the experience of X), or upon pre-established (and seemingly objective) categories that ultimately derive from folk

[22] The former would be problematic in that it would result in increased exposure to the problems of self report outlined in section 3.2.1. The latter would be unsatisfactory in that it would result in a "black box" view of consciousness in which nothing could be definitively said about mental states themselves. C.f. regarding this point Daniel Dennett on his program of "heterophenomenology" in *Consciousness Explained,* "Who's on first? Heterophenomenology explained", and "Heterophenomenology Reconsidered". Because his method proscribes taking first person reports as data themselves, and not as reports of data, Dennett admits that the heterophenomenologists must remain neutral as to whether these reports say anything accurate about mental events or "whether his subjects are zombies, computers, lying, or confused." For Dennett, who argues that consciousness simply does not have the first-person qualitative properties it is commonly thought to have, this is not a problem; however, for those interested in the scientific study of those very properties, such an approach is simply not acceptable.

psychology or from some obscure, anonymous, and non-rigorous form of phenomenology." [23] What is necessary, then, for a scientifically rigorous methodology of first-person observation is an approach rooted in pre-theoretical observation of mental phenomena which includes a method for the communication and intersubjective verification of the theoretical distinctions posited on the basis of such observation, and a way of representing the first-person data which supports these theoretical distinctions in a manner communicable to the rest of the cognitive scientific framework. It is precisely such a methodology which the following proposals for naturalized phenomenology attempt to provide, and it is precisely these qualities which distinguish these methodologies from "phenomenology" in the non-technical sense of methodically disorganized introspection into experience.

2.1.2 PHENOMENOLOGICAL METHODS

Phenomenology can be thought of as a style of thinking which begins from the primacy or irreducibility of conscious experience and employs a number of methodological tools to draw conclusions about the fundamental structure of that experience. In their 2007 book on the intersection between the cognitive sciences and phenomenology, *The Phenomenological Mind*, phenomenologists Dan Zahavi and Shaun Gallagher characterize phenomenology in the following way:

[23] Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind,* p. 26

> "Phenomenology has as its goal, not a description of idiosyncratic experience – 'here and now, this is just what I experience' – rather, it attempts to capture the invariant structures of experience. In this sense, it is more like science than like psychotherapy. […][P]henomenology is not interested in qualia in the sense of purely individual data that are incorrigible, ineffable, and incomparable. Phenomenology is not interested in psychological processes (in contrast to behavioural processes or physical processes). Phenomenology is interested in the very possibility and structure of phenomenality; it seeks to explore its essential structures and conditions of possibility. Phenomenology aims to disclose structures that are intersubjectively accessible, and its analyses are consequently open for corrections and control by any (phenomenologically tuned) subject. […]Phenomenology should therefore be understood as a philosophical analysis of the different types of world-disclosure (perceptual, imaginative, recollective, etc.), and in connection with this as a reflective investigation of those structures of experience and understanding that permit different types of beings to show themselves as what they are."[24]

On this account, the goal of phenomenology is not merely to uncover facts about subjective experience in any particular person at any particular moment, but to uncover the purported invariant structures which underlie and form the conditions of possibility for experience in general. This aim is reflected in its focus on intersubjective access and verifiability. Therefore, while phenomenology's object of study is "subjective" in the sense of being only accessible through conscious awareness, it is not "subjective" in the sense of being subject to variation, bias, or unverifiability between individuals. As Zahavi and Gallagher put it:

> "Some people mistake phenomenology for a subjective account of experience; but a subjective account of experience should be distinguished from an account of subjective experience. In a similar way, some people confuse an objective account of experience with the idea that we can understand subjective experience by turning it into an object that can be examined using third-person methods.

[24] Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind,* p. 26

> The problem is that these terms, 'subjective' and 'objective', are ambiguous; they can mean different things in different contexts. In science, objectivity, in the sense of avoiding prejudice or bias, is important. It is one of the reasons that controls are used in experiments, and there are various methodological steps one takes to maintain objectivity. Phenomenology is also concerned to maintain objectivity in this sense. It does so by way of a carefully delineated method."[25]

The phenomenological method is designed to maintain objectivity, in the sense of avoiding ungeneralizable aberrations to its theories, while approaching its object of study from the perspective of subjective experience. The following discussion will focus on the phenomenological method for uncovering, clarifying, and verifying the invariant structures underlying subjective experience.

2.1.2.1 EPOCHÉ AND REDUCTION

As stated above, the project of devising the phenomenological method began with Edmund Husserl's efforts to secure sound epistemological foundation for science, philosophy, and knowledge in general through the detailed analysis of the internal structure of the acts of consciousness. For Husserl, this project is rooted in what he calls the problem of "transcendence", which consists of two interrelated issues.[26] First, there is the question of how consciousness can "go beyond itself" and make contact with an object that is not itself a part of consciousness. Second, there is the issue that one cannot be assured that the object really is "in itself" the way it appears to be in consciousness. Both of these issues revolve around the fact

[25] Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind,* p. 19
[26] Edumund Husserl, *The Idea of Phenomenology*, pp. 27-28

that the supposed objects of intentional conscious acts are not "imminently given" in consciousness, or at the very least, in the second case, not given in an "absolute and clear" sense. Based on these considerations, Husserl concludes that, unless his effort at securing the possibility of knowledge are to be burdened by the very problem which it seeks to solve, his project must be based on a form of knowledge that is itself entirely free of the problem of transcendence.[27]

It is towards this end that Husserl devises the phenomenological methods of *epoché* and reduction, which entail the rigorous abstention from all knowledge claims involving transcendence by taking only the "sphere of absolute givenness" – that is, conscious experience itself – as the focus of analysis. By barring the positing of the experience-independent existence of either the objects of knowledge or the knowing subject, the *epoché* and reduction give way to an analysis of knowledge based on a new form of transcendence – a "phenomenological transcendence" contained entirely within the realm of pure experiential immanence – in which knowledge can be understood through the analysis of the constitution of the relationship between object appearances and the acts of consciousness that apprehend them.[28] It is the analysis of this formation, the constitution of object appearances as knowledge within the realm

---

[27] Edumund Husserl, *The Idea of Phenomenology*, p. 26
[28] Edmund Husserl, *The Idea of Phenomenology*, pp. 7-9, 54-55

of pure consciousness, which forms the focus of study for what Husserl would call "transcendental phenomenology."

The transcendental phenomenological method begins with the suspension of the "natural attitude" naïvely presupposed in ordinary experience through the enactment of a change in experiential attitude which phenomenologists call "*epoché*" or "bracketing." As we have seen, this shift in experiential attitude consists of abandoning the commonsense presupposition of an experience-independent objective reality populated by various knowable objects, including the knowing subject itself, in favor of an experiential standpoint rooted in the "absolute self-givenness" of "pure" or "transcendental" consciousness.[29] The goal of taking on this perspective is not to "doubt, neglect, abandon, or exclude reality from consideration," but rather to neutralize attitudes towards reality which ignore the contributions of consciousness to experience.[30] Therefore, the purpose of this methodological "bracketing" of ontological assumptions is not to establish a form of skepticism or to abandon the purportedly objective world as an object of study, but rather to place oneself in a position to study the structures in conscious awareness which underlie the constitution of ordinary everyday experience of the world, and thereby the conditions of possibility for the "natural attitude" and objectivity itself.[31]

---

[29]Edumund Husserl, *The Idea of Phenomenology*, pp. 7-8, 33-40
[30] Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind,* pp. 22-23
[31] See Note 5

From the above analysis we can see that one concept which is central to the phenomenological approach is that of the "constitution" of the objects of experience. As phenomenologist Dermot Moran notes, "In a sense, the whole problem of phenomenology comes down to the problem of constitution."[32] Husserl's concept of constitution is derived from Kantian and neo-Kantian philosophy, in which the term refers to "the manner in which objects are 'built up' for consciousness out of a synthesis of sensory intuitions and various categories which are applied according to rules."[33] Husserl's concept of constitution follows along these lines, placing emphasis, however, on consciousness's "rule governed" or structural contribution to the "sense and being" of its intentional objects.[34] However, here "being" is not to be interpreted as meaning "being-in-itself", which would imply that constitution entails a sort of solipsism or subjective idealism, but rather as a description of the manner in which objects appear to consciousness.[35] On this interpretation, constitution can be seen as the process by which the experience of objectivity – that is, the experience of the objects of consciousness as being "other" than consciousness and given in the world – is formed in conscious experience, bestowing meaning on objects as independent existents. Thus, Husserl's concept of "constitution" can be seen as spanning a semantic range from "positing" (*setzung*) or "sense-

[32] Dermot Moran, *Introduction to Phenomenology*, p. 164
[33] Dermot Moran, *Introduction to Phenomenology*, p. 164
[34] c.f. Dan Zahavi, *Husserl's Phenomenology,* pp. 72-75
[35] c.f. Dermot Moran, *Introduction to Phenomenology*, p. 165, where he states: "Husserl does actually speak of transcendental consciousness giving both meaning and being to the world, but 'being' here means the manner in which beings appear to consciousness, being-for-us as opposed to being-in-itself (terms Husserl himself employs)."

bestowing"(*sinngebung*) to "putting together" (*zusammenstellung*), in the sense of "creating," or what Husserl called in his later writings the "production" of objectivities.[36] As Husserl himself puts it the first book of his *Logical Investigations*:

> "Dazed by the confusion between object and mental content, one forgets that the objects of which we are 'conscious', are not simply *in* consciousness as in a box, so that they can merely be found in it and snatched at in it; but that they are first constituted as being what they are for us, and as what they count as for us, in varying forms of objective intention"[37]

The goal of the performance of *epoché,* and, as we shall see, it's counterpart, the reduction, then is to reveal the intentional structures which guide the constitution of the objects of consciousness as objective and meaningful in experience.[38]

While the *epoché* is aimed at the abstention (*enthaltung*) from our habitual mode of experiencing the world as actual (*wirklich*) or as 'there', 'present at hand' (*vorhanden*), the goal of reduction is to ensure focus on the pure phenomena of conscious acts without recourse to any theories or assumptions about them, thereby revealing and isolating the central structures of subjectivity.[39] Gallagher and Zahavi speak of the mutual interdependence of these two methods:

> "The epoché and the reduction can be seen as two closely linked elements of a philosophical reflection, the purpose of which is to liberate us from a

---

[36] Dermot Moran, *Introduction to Phenomenology*, p. 165
[37] Edmund Husserl, *Logical Investigations I*, p. 175
[38] C.f. Chapter VI, "The Place of Constitution in Husserl's Phenomenology" of Robert Sokolowski's, *The Formation of Husserl's Concept of Constitution* for a more detailed account of Husserl's concept of constitution.
[39] Dermot Moran, *Introduction to Phenomenology*, pp. 146-147

> natural(istic) dogmatism and to make us aware of our own constitutive (i.e. cognitive, meaning-disclosing) contribution to what we experience. Whereas the purpose of the epoché is to suspend or bracket a certain natural attitude towards the world, thereby allowing us to focus on the modes or ways in which things appear to us, the aim of the phenomenological reduction is to analyse the correlational interdependence between specific structures of subjectivity and specific modes of appearance or givenness. When Husserl speaks of the reduction, he is consequently referring to a reflective move that departs from an unreflective and unexamined immersion in the world and 'leads back' (*re-ducere*) to the way in which the world manifests itself to us."[40]

Dermott Moran describes this "leading back" as functioning through the vigilant suspension of explanatory assumptions and theories. According to Moran, by detaching "from all forms of conventional opinion, including our commonsense psychology, our accrued scientific consensus on issues, and all philosophical and metaphysical theorising regarding the nature of the intentional" and thereby "getting behind or to one side of the meaning-positing or thetic acts normally dominant in conscious acts, new features of those acts come to the fore."[41] Through the careful and sustained cultivation of this perspective, the combined effects of the closely intertwined methods of *epoché* and reduction allow one to bring the constitutive aspects of experience forth into conscious awareness undistorted by presuppositions or theoretical conclusions about them.

In the first book of his *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy*, Husserl gives a famous example of the workings of this process in his description of

---

[40] Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind,* pp. 24-25
[41] Dermot Moran, *Introduction to Phenomenology*, p. 146

looking at and touching a sheet of white paper. In this example, by giving a careful, scrupulous account of what his perception looks like absent of any assumptions about it, Husserl demonstrates how the application of the *epoché* and reduction reveal aspects of the structure of experience typically obscured by the naturalistic viewpoint.[42] It is useful to quote his perceptual description at length:

> "Lying in front of me in the semi-darkness is this sheet of paper. I am seeing it, touching it. This perceptual seeing and touching of the sheet of paper, as the full concrete mental awareness *of* the sheet of paper lying here and given precisely with respect to these qualities, appearing to me precisely with this relative obscurity, with this imperfect determinateness in this orientation, is a cogitatio, a mental process of consciousness […] In perceiving proper, as an attentive perceiving, I am turned toward the object, for instance, the sheet of paper; I seize upon it as this existent here and now. The seizing-upon is a singling out and seizing; anything perceived has an experiential background. Around the sheet of paper lie books, pencils, an inkstand, etc., also 'perceived' in a certain manner, perceptually there, in the 'field of intuition;' but, during the advertence to the sheet of paper, they were without even a secondary advertence and seizing-upon. They were appearing and yet were not seized upon and picked out, not posited singly for themselves. Every perception of a physical thing has, in this manner, a halo of *background-intuitions*."[43]

Here we see how Husserl's bracketing of the assumption of the independent existence of percepts, choosing to see them simply as *cogitationes*, foregrounds structural aspects of his experience: the mental "singling out and seizing" of the object attended to, the secondary and undifferentiated nature of the background "halo" of other objects, and even the implicit

---

[42] Dermot Moran, *Introduction to Phenomenology*, pp. 153-154

[43] Edmund Husserl, *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy I*, pp. 69-70

positing of existence "here and now," "singly for [it]self." He goes on to even note that, while in his experience of viewing and grasping the paper, he is aware of being directed towards the object (i.e. the paper), he is aware of the qualities belonging that object (e.g. it's whiteness) in a fundamentally different way. While his perception of the color white forms a part of his experience, it is not experienced as an object as the paper is; it is not a "bearer of intentionality."[44] Therefore, through this example, we see how Husserl envisioned the function of the *epoché* and reduction.

As a final comment, it is important to note that the perspective brought about by *epoché* and reduction should not be thought of as something which can be established enduringly in one step in order to be followed by other procedures, but rather as "an attitude that one has to keep accomplishing."[45] Francisco Varela, perhaps the most influential figure in the development of neurophenomenology, speaks of the attitude of reduction as being "notoriously fragile," requiring disciplined cultivation to stabilize and deepen.[46] In his 1931 essay, "Phenomenology and Anthropology," Husserl himself, in commenting on the centrality of the attitude of *epoché* and reduction to his philosophical approach, notes the ease with it can be lost to psychologizing and theorizing, and, thereby, the experiential distortion of the natural attitude:

---

[44] Edmund Husserl, *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy I*, p. 75
[45] Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind,* pp. 23
[46] Francisco Varela, "Neurophenomenology," pp. 337-338

> "[I]n the final analysis everything depends on the initial moment of the method, the phenomenological reduction. The reduction is the entranceway to this new realm, so if one gets the meaning of the reduction wrong then everything else goes wrong, also. The temptation to misunderstandings here is simply overwhelming. For instance, it seems all too obvious to say to oneself: 'I, this human being [dieser Mensch], am the one who is practicing the method of a transcendental alteration of attitude whereby one withdraws back into the pure Ego;[47] so can this Ego be anything other than just a mere abstact stratum of this concrete human being, its purely mental [geistiges] being, abstracted from the body?' But clearly those who talk this way have fallen back into the naive natural attitude. Their thinking is grounded in the pregiven world rather than moving within the sphere of the epoché. For, to take oneself as a human being already presupposes an acceptance of validity of the world. What the epoché shows us clearly, however, is that the Ego is the one in whose life-process the apperception 'human being,' standing within the universal apperception 'world,' acquires and maintains its sense of being."[48]

Therefore, while the acts of *epoché* and reduction form the starting point from which the phenomenological project begins, one engaging in the phenomenological method must be certain to continually re-establish these bases for the proper phenomenological attitude, continually bracketing away conceptualizations not given in experience with skill and vigilance. Only with such a sustained effort can a systematic study of the conscious structures underlying subjective experience mature.[49]

2.1.2.2 EIDETIC VARIATION

---

[47] Husserl uses the capitalized form of the term "Ego" to denote the transcendental ego -- which he thinks of as the essential nature of consciousness, the "place" in which the world-as-experienced is constituted -- in contrast to the ego of psycho-physical experience, which he usually refers to with the capitalized German *Ich*

[48] Edmund Husserl, "Phenomenology and Anthropology", p. 6

[49] Francisco Varela, "Neurophenomenology: A Methodological Remedy for the Hard Problem," pp. 337-338

Having accomplished the *epoché* and reduction, the phenomenologist has a number of additional methods at his or her disposal for the further clarification and verification of the essential structures which make up particular types of experiences. As we have stressed above, the goal of the phenomenological method is not simply to describe particularized experiences exclusive to one individual or one experiential event, but to elucidate the constitutive structures fundamental to conscious experience in general. In this regard, Husserl stresses the importance of moving beyond the mere facts of experience to a level of essential truths and universal laws, seeing phenomenology as a method for the viewing of essences (*wesensschau*) and "fixing" them conceptually and then linguistically.[50] In "Philosophy as a Rigorous Science," Husserl describes the endeavor to arrive at the fundamental constituents of conscious experience as an effort to extract meaning-essences from a continuous flow of transient psychical phenomena experienced as a "monadic" unity of consciousness.[51] Through such a process, which he termed "eidetic seeing" (*wesenerschauung*),[52] Husserl thought that it was possible to gain a fundamental insight into the essential nature of things, thereby securing a basis for valid knowledge of universals.[53]

---

[50] Dermot Moran, *Introduction to Phenomenology*, p. 135, citing Edmund Husserl, *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy I*, p. 151

[51] Edmund Husserl, "Philosophy as a Rigorous Science", p. 180

[52]This term is derived from Plato's *eidos* (Greek εἶδος). In its non-technical sense, the term means "something that is seen," being a nominalization of the verb *eide*, "to see." Plato and Aristotle, however, use this term in a technical sense to refer to "the primary essence of a thing." For Plato the term is used interchangeably with the term *idea* (Greek ἰδέα) to refer to the unchanging, universal, primary realities (i.e. "Platonic Forms") from which particular objects and properties are derived. It is also interesting to

In order to induce this "eidetic seeing," Husserl devised a method which he called "eidetic variation," in which one imagines variations of a particular aspect of experience and systematically strips away the properties which are inessential to it, leaving only the core set of properties necessary for the subject of analysis to maintain its identity. *In The Idea of Phenomenology*, Husserl demonstrates and explains this method at length using the example of the color red:

> "Let us consider cases where the universal is given, that is, cases where a purely immanent consciousness of universality constitutes itself on the basis of a seen and self-given particularity. I have a particular intuition of red, or several particular intuitions of red; I attend to pure immanence alone; I perform the phenomenological reduction. I separate off anything that red might signify that might lead one to apperceive it as transcendent, as, say, the red of a piece of blotting paper on my desk, and the like. And now I actualize in pure seeing the sense of the thought red, red in *specie*, the *identical universal* that is seen in this or that; now the particularity as such is no longer meant, but rather red in general. If we in fact do this in a pure act of seeing, would it still make sense to doubt what red in general is, what is meant by 'red,' what it is according to its essence? […] Could a divine being, an infinite intellect, do anything more to grasp the essence of red than to see it as a universal? And if two species of red are given to us, two nuances of red, can we not judge that they are similar to each other -- not these particular, individual red phenomena, but rather the species, the nuances as such? […]Thus this givenness is a purely immanent givenness, not immanent in the false sense, namely, existing in the sphere of individual consciousness. Here we are not speaking of the acts of abstraction that occur in the psychological subject, and the psychological conditions under which they are performed. Rather, we are speaking of the universal essence red, or the sense red, and its givenness in the act of seeing a universal."[54]

---

note, given our current topic, the etymological connection between this term and the Sanskrit "veda." c.f. Joseph Novak, "A Sense of Eidos"

[53] Dermot Moran, *Introduction to Phenomenology*, pp. 134-135

[54] Edmund Husserl, *The Idea of Phenomenology*, p. 42

Thus, for Husserl, the method of eidetic variation allows one to extract universal essences from particularized experiences. When this method is used to focus on the fundamental aspects of experience, the phenomenologist is able to uncover essential universal facts about conscious experience itself. Husserl stresses, however, that this process should not be understood as representing a sort of Platonism or mystical intuition, and that his concept of the universal should not be considered analogous to empiricist or abstractionist accounts of the concept.[55] Nevertheless, interpreters of phenomenology and later phenomenologists alike, including Martin Heidegger and Emmanuel Levinas, have challenged the legitimacy of the concept of the eidetic in general. Therefore, while the concept of the eidetic and the method of eidetic variation have been influential on phenomenology and its development, phenomenologists have disagreed on how one should interpret the results of eidetic variation.

2.1.2.3 INTERSUBJECTIVE VALIDATION

The final methods used by phenomenologists in general are those used to corroborate their analyses in order to ensure that they have indeed uncovered invariant, essential structures of consciousness rather than mere peculiarities of their own experience.[56] Because of the utmost importance phenomenology places upon the extraction of essential structures universal to all experience from personal "egological" analysis, it is crucial for the validity of the

[55] Dermot Moran, *Introduction to Phenomenology*, p. 135; c.f. also Edmund Husserl, *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy I*, pp. 40-44
[56] Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind,* p. 28

phenomenological project that its findings be intersubjectively verifiable. Dan Zahavi summarizes Husserl's thought along these lines as such:

> "Husserl characterizes the intersubjective-transcendental sociality as the source of all real truth and being, and occasionally he even describes his own project as a *sociological* transcendental philosophy and writes that the development of phenomenology necessarily implies the step from an egological to a transcendental-sociological phenomenology. In other words, a radical implementation of the transcendental reduction leads with necessity to a disclosure of transcendental intersubjectivity. […][S]ince Husserl considered […] an account of the constitution of objective reality and transcendence as one of the most important concerns of transcendental phenomenology, it should be obvious what kind of systematic importance his analyses of intersubjectivity possess, and how much is actually at stake. If transcendental phenomenology for some principal reasons was prevented from accounting for intersubjectivity (eventually due to its alleged methodical solipsism or subjective idealism), the consequence would not merely be its inability to carry out an ambitious and detailed investigation, but its failure as a fundamental philosophical project."[57]

For Husserl, intersubjectivity is not an objectively existing structure in the world which can be analyzed from a third-person perspective, but is rather a relation between subjectivities which can only be disclosed through a radical explication of transcendental consciousness's structures of experience. Husserl describes and employs the concept of intersubjectivity in three basic ways. First, for Husserl, one's experience of objective validity is made possible by one's experience of the transcendence and inaccessibility of what he often calls "foreign" subjectivity, the subjectivity of the other. The basis of this idea is that, if objects of experience can be experienced by others, then they cannot be reduced to one particular individual's "intentional

---

[57] Dan Zahavi, "Husserl's Intersubjective Transformation of Transcendental Philosophy," p. 234

correlates." As Zahavi puts it, "The intersubjective experienceability of the object guarantees its real transcendence, and my experience (constitution) of it is consequently mediated by my experience of its givenness for another transcendent subject, that is, by my experience of a foreign world-directed subject."[58] That is to say, only insofar as one experiences that others experience the same objects as oneself does one really experience these objects as objective and real. Therefore, for Husserl, one's first primal experience of others once and for all makes possible the constitution of objectivity, reality, and transcendence. Further, the corresponding realization of the distinction between the thing in itself and the way it is constituted for oneself gives rise to the categories of immanence, subjectivity, and appearance.

Husserl holds that one's constitution of intersubjectivity, objectivity, and subjectivity are further altered and concretized by the types of experience in which one experiences the other as experiencing oneself. In Zahavi's words, "This kind of 'original reciprocal co-existence' where I take over the Other's objectifying apprehension of myself, that is, where my self-apprehension is mediated by the Other, and where I experience myself as alien, is of decisive importance for the constitution of an objective world."[59] When one realizes that he himself can be an object of experience for another, just as the other can be an object of experience for him, the absolute difference between self and other is weakened. As one realizes that his or her perspective on the

---

[58] Dan Zahavi, "Husserl's Intersubjective Transformation of Transcendental Philosophy," p. 236
[59] Dan Zahavi, "Husserl's Intersubjective Transformation of Transcendental Philosophy," p. 237

world is only one among several, one's privileged status in relation to the objects of experience is suspended. Through this realization, the way one's experience is constituted is permanently transformed. Zahavi summarizes Husserl's thinking on this process as follows:

> "Husserl claims that my experiences are changed when I experience that Others experience the same as I, and when I experience that I myself am experienced by Others. From then on, my object of experience cannot any longer be reduced to its mere being-for-me. Through the Other, it has been constituted with a subject-transcendent validity. No longer do I experience it as being dependent upon me and my factual existence. Quite to the contrary, as an intersubjective object it is endowed with an autonomy of being that transcends my finite existence."[60]

However, Husserl's concept of the intersubjective should not be thought of as something which is limited to bodily mediated interactions. Besides the accounts of intersubjectivity given above, Husserl also describes and operates with two other types of intersubjectivity.[61] First, Husserl holds that the constitutive acts of the transcendental subject necessarily imply a reference to other subjects, even prior to the experience of those subjects or their bodies. For Husserl, each and every experience entails a reference to other co-constituting co-subjects:

> "My experience as mundane experience (that is, already each of my perceptions) does not only entail Others as mundane objects, but also and constantly in existential co-validity as co-subjects, as co-constituting, and both are inseparably intertwined."[62]

This view is a result of Husserl's conception of perceptual experience, in which the fact that any particular subject can only perceive one of many simultaneously existing perspectives

---

[60] Dan Zahavi, "Husserl's Intersubjective Transformation of Transcendental Philosophy," p. 237
[61] Dan Zahavi, "Husserl's Intersubjective Transformation of Transcendental Philosophy," pp. 238-239
[62] (Ms. C17 36a). Quoted and translated in Dan Zahavi, "Husserl's Intersubjective Transformation of Transcendental Philosophy," p. 238

of an object entails the positing of a plurality of possible subjects corresponding to each possible perspective. Again, Zahavi clarifies Husserl's initially cryptic reasoning:

> "Provided that the subject as subject is directed toward objects, provided that every experience of objects is characterized by the horizonal appearance of the object, where a certain aspect is present and the others are absent, and provided that this horizonal intentionality, this interplay between presence and absence, can only be accounted for phenomenologically through a reference to a plurality of possible subjects, the consequence is that I in my being as subject am referred to Others, regardless of whether I experience them concretely or not, regardless of whether they actually exist or not. My intentionality is a priori dependent upon something, which Husserl calls 'open intersubjectivity.'"[63]

Finally, Husserl describes and employs a third kind of transcendental intersubjectivity which presupposes those which we have discussed so far. This sort of intersubjectivity can be described as the constitutive function of the anonymous influence of linguistically sedimented and traditionally handed-down cultural normality.[64] In short, Husserl holds that our experiences are guided by our anticipations of cultural normalcy. When distinctions between psychological and cultural normality and abnormality are taken into account in efforts at the intersubjective verification of experience, intersubjective disagreement gains a vital constitutive significance:

> "According to Husserl, the experience of discrepancy between normal subjects (including the experience of a plurality of normalities, each of which has its own notion of what counts as true) does not merely lead to a more complex world-comprehension insofar as we, if we are able to synthesize the standpoints, can gain a richer insight. The disagreement can also motivate the constitution of

---

[63] Dan Zahavi, "Husserl's Intersubjective Transformation of Transcendental Philosophy," p.239
[64] Dan Zahavi, "Husserl's Intersubjective Transformation of Transcendental Philosophy," pp. 238, 240

> scientific objectivity, insofar as we aim toward reaching a truth which will be valid for us all. Thus, eventually it becomes necessary to differentiate between (1) 'normal' objectivity, which is correlated with a limited intersubjectivity (a community of normal subjects), and (2) 'rigorous' objectivity, which is correlated with the unlimited totality of all subjects."[65]

Thus, for Husserl, intersubjectively handed-down perceptions of normalcy, cultural or otherwise, play a crucial role in the constitution of theoretical scientific objectivity. So, as we have seen, in Husserl's thought, transcendental consciousness is a fundamentally intersubjective consciousness, and the many forms of intersubjectivity, implicit or mediated by bodily experience, play a crucial role in determining the ways in which objectivity is constituted in experience.

Now, having explored Husserl's concept of intersubjectivity and how it relates to other key notions in his thought, we will turn to the method of intersubjective validation. The process of intersubjective validation primarily consists of the skillful description, communication, and corroboration or refinement of accounts of experience derived from the other phenomenological methods. As we have stated, this process forms an essential aspect of the phenomenological method because, among other reasons, it helps to ensure that one's analysis has indeed uncovered invariant, essential structures of consciousness, and, further, may drive analyses of increasing precision or broader intersubjective applicability.

---

[65] Dan Zahavi, "Husserl's Intersubjective Transformation of Transcendental Philosophy," p. 244

In their practical guide to phenomenological methods, *On Becoming Aware,* Natalie Depraz, Francisco Varela, and Pierre Versmersch describe this process in terms of two phases, expression and validation.[66] On their account, the process of expression requires the transformation of the intuitive, pre-symbolic and pre-categorical evidence uncovered through the phenomenological method into "signitive" acts which are endowed with symbolic content. This process is to occur through a suspension or inhibition of spontaneous acts of expression "in order to let meaning arise in all its intensity," giving rise to a "secondary spontaneity" in which meaning is constituted through the act of expression.[67] In this regard, they point to Husserl's statement in his *Cartesian Meditations* of the essential necessity of "letting the still mute experience [*die stumme Erfahrung*] come to the expression of its proper meaning,"[68] and his injunction to grasp what the thing itself says in "its own language." Through this process of suspension, one limits the extent to which the "immanent categories of language" shape the constitution of meaning, and thereby one's expression. Already, at this stage, the continued impression of the insufficiency of language for the description of one's expression leads to further phenomenological refinement through further reductions and analysis.

Thus, the act of expression leads naturally to validation, first through internally-mediated refinement, and then through intersubjective verification. This intersubjective

[66] Natalie Depraz, et al., *On Becoming Aware*, p. 65
[67] Natalie Depraz, et al., *On Becoming Aware*, p. 68
[68] Translated in Natalie Depraz, et al., *On Becoming Aware*, p. 69 from Husserl's *Cartesianische Meditationen,* section 16. An alternate translation can be found in Edmund Husserl, *Cartesian Meditations*, p. 38

validation consists of what Depraz, Varela, and Versmerch describe as "*an exchange between situated individuals* focusing on a specific experiential content developed from a first-person position."[69] Following Husserl, they argue that "the experiential or subjective must be sharply distinguished from the private or inaccessible." On their view, "there is no *a priori* reason why what we experience – what is closest to individual subjectivity – cannot also be examined, expressed, and opened up to intersubjective validation."[70] Therefore, they speak of intersubjective validation not as occurring within a framework based on a strict opposition between public and private, but within a continuum of positions in a social network. They argue that, because of the way the social network is constituted, various positions in the network – the self, the other, and the objective – are constituted in varying gradations in accordance with the emphasis one puts on accomplishing a particular mode of validation at any given time.[71] Through a sustained process of validation based on continued variation of positions in this three-poled network of intersubjective constitution, essential invariant structures of experience can be settled upon with the careful comparison of expressions of a particular aspect of experience. Through a repeated process of practical differentiations, categorical refinements, and individual "re-experiencing" based on new horizons opened up through the intersubjective process, a community can progressively strip away the individual

---

[69] Natalie Depraz, et al., *On Becoming Aware*, p. 81
[70] Natalie Depraz, et al., *On Becoming Aware*, p. 80
[71] Natalie Depraz, et al., *On Becoming Aware*, p. 82

peculiarities of experience and arrive at essential invariant structures of a particular type of experience.[72]

2.1.3 NATURALIZING PHENOMENOLOGY

Having gained a thorough understanding the concepts and methods which make up classical Husserlian transcendental phenomenology, we will now turn to modern efforts at "naturalizing" phenomenology. Depending on the approach, what exactly the "naturalization" of phenomenology entails varies quite drastically. Therefore, we will elucidate in detail how Hussserl himself thought of naturalism and why he objected to it, the central motivations for the naturalization of phenomenology, and the various frameworks for naturalization which have been proposed.

2.1.3.1 HUSSERL'S CRITIQUE OF NATURALISM

As we have alluded above, Husserl felt that the project of transcendental phenomenology was fundamentally incompatible with the naturalistic viewpoint, and therefore felt that any attempt at "naturalizing" phenomenology would be vitally flawed from the start. It is this incompatibility between the naturalism presupposed by the sciences and the transcendental viewpoint which forms the very basis of phenomenology which comprises the

[72] Natalie Depraz, et al., *On Becoming Aware*, pp. 94-95

primary obstacle impeding efforts at incorporating phenomenological methods into the cognitive sciences. As we shall see, Husserl's condemnation of uncritical naturalism from the perspective of transcendental phenomenology involved the specific critique of the naturalistic approach to consciousness which the cognitive sciences espouse.

Naturalism can be characterized as consisting of both ontological and methodological commitments. [73] Naturalism's ontological commitment can be expressed as the monistic view that all things, at least at the most fundamental level, are made up of natural substances and properties; that is, everything that exists is natural. More specifically, this view is often explicitly tied to an endorsement of metaphysical realism, the view that the world is as it is independently of how observers may take it to be. On this view, "the objects the world contains, together with their properties and the relations they enter into, fix the world's nature and these objects exist independently of our ability to discover they do."[74] Naturalism's methodological commitment amounts to the idea that the methods found in and employed by the natural sciences form a firm criterion for the justification of beliefs:

> "Metaphysical realism assumes that everyday experience combines subjective and objective features and that we can reach an objective picture of what the world is really like by stripping away the subjective. It consequently argues that there is a clear distinction to be drawn between the properties things have 'in themselves' and the properties which are 'projected by us'. Whereas the world of appearance, the world as it is for us in daily life, combines subjective and

[73] Dan Zahavi, "Naturalized Phenomenology," p. 5
[74] Drew Khlentzos, "Challenges to Metaphysical Realism"

> objective features, science captures the objective world, the world as it is in itself."[75]

Throughout his career, Husserl continually identified naturalism as the biggest threat to the genuine epistemic legitimacy of both the sciences and philosophy.[76] Husserl's critique of naturalism focuses on three major issues. First, he argues that it is "countersensical" (*widersinnig*) in that it presupposes the objective existence of the phenomena which it aims to account for, while repudiating the eidetic structures which he sees as being required for the articulation and justification of objectivity itself.[77] As we have seen, it is in order to avoid being ensnared in this very "countersensical circle" (*widersinniger Zirkel*) that Husserl developed the phenomenological method of *epoché*. Based on this same reasoning, Husserl sees any empirical, experimental, or psychophysical approach to consciousness as being involved in the performative self-contradiction of pre-supposing the objective existence of the phenomena which it aims to study, while simultaneously refusing to acknowledge those very phenomena's role in the constitution of objectivity. It is for this reason that in his *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy I*, Husserl speaks of phenomenological

[75] Dan Zahavi, "Naturalized Phenomenology," p. 6
[76] Dermot Moran, "Husserl's Transcendental Philosophy and the Critique of Naturalism," p. 402
[77] Dermot Moran, "Husserl's Transcendental Philosophy and the Critique of Naturalism," p. 406

reduction as freeing one form the corrupting inclination to "psychologize" the eidetic and relationships among essences.[78]

Second, Husserl argues that the naturalistic perspective essentially misconstrues consciousness by treating it as an object in the world. According to Husserl, the project of naturalistic objectivism and the "naturalization of consciousness" (*Naturalisierung des Bewusstseins*) misconstrue consciousness by treating it as a residue item or 'tag-end' (*Endchen der Welt*) within the world, rather than recognizing subjectivity as a transcendental condition which allows for the constitution of objectivity and worldhood as such.[79] Zahavi and Gallagher describe the crucial distinction between these two approaches to consciousness:

> "Phenomenologists […] reject the suggestion that consciousness is merely one object among others in the world, on a par with – though possibly more complex than – volcanoes, waterfalls, ice crystals, gold nuggets, rhododendrons or black holes, since they would consider it to be a necessary (though not sufficient) condition of possibility for any entity to appear as an object in the way it does and with the meaning it has."[80]

Following Husserl, Zahavi and Gallagher argue that an account of consciousness rooted in a naturalistic worldview necessarily overlooks or conceals consciousness's constitutive function by treating it as an object. Therefore, a naturalistic account of consciousness necessarily neglects the aspect of consciousness which phenomenology takes to be of primary importance:

---

[78] Edmund Husserl, *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy I*, pp. 139-140
[79] Dermot Moran, "Husserl's Transcendental Philosophy and the Critique of Naturalism," p. 402
[80] Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind,* p. 24

> "The phenomenological investigation of consciousness is not motivated by the wish to find a place for consciousness within an already well-established materialistic or naturalistic framework. In fact, the very attempt to do so, assuming that consciousness is merely yet another object in the world, would prevent one from discovering and clarifying some of the most interesting aspects of consciousness, including the true epistemic and ontological significance of the first-person perspective. […]Too frequently the assumption has been that a better understanding of the physical world will allow us a better understanding of consciousness; rarely has it been thought that a better understanding of consciousness might allow for a better understanding of what it means for something to be real. That something like a conscious appropriation of the world is possible does not merely tell us something about consciousness, but also about the world. But, of course, this way of discussing consciousness, as the constitutive dimension, as the 'place' 'in' which the world can reveal and articulate itself, is quite different from any attempt to treat it naturalistically as merely yet another (psychical or physical) object in the world."[81]

Based on these considerations, it is clear how naturalistic and transcendental accounts of consciousness are at least *prima facie* incompatible, and that this incompatibility has its basis in a fundamental difference in both theoretical assumptions and approach.

Husserl's third critique of naturalism is that, by ignoring consciousness's constitution of the lifeworld, naturalism takes the "objective world" to be primary. On his account, rather:

> "[T]he being of the pure ego and his cogitationes, as a being that is prior in itself, is antecedent to the natural being of the world – the world of which I always speak, the one of which I can speak. Natural being is a realm whose existential status [*Seinsgeltung*] is secondary; it continually presupposes the realm of transcendental being."[82]

---

[81] Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind,* p. 25
[82] Edmund Husserl, *Cartesian Meditations*, p. 21

Thus, for Husserl, all conscious life and objectivity are "constituted accomplishments" which require the prior existence of transcendental consciousness. It is this primacy of transcendental consciousness within Husserl's thought which forms the very core of its fundamental discrepancy with naturalism.[83]

However, recent efforts at integrating phenomenological methods and findings with scientific research on the mind and brain have called into question this strict opposition between naturalism and the phenomenological approach. While more modest proposals for the naturalization of phenomenology have promoted meaningful and productive communication between phenomenology and the sciences, more radical proposals have called for the complete subsumption of phenomenology into the explanatory framework of the natural sciences.

2.1.3.2 THE EXPLANATORY GAP: THE LIMITS OF COGNITIVE SCIENCE

Calls for the naturalization of phenomenology have primarily been motivated by the claim that the customary methods and theoretical assumptions of the cognitive sciences have been ineffective in accounting for the qualitative aspects of conscious experience, and that the resulting lacuna in its account of mental phenomena can only be filled by a scientifically

[83] It is important to note that this discrepancy should not be thought of in terms of differences regarding the ontological status of the mind or brain. As Dan Zahavi notes, "[I]t is not naturalism's classical endorsement of some form of reductive materialism that constitutes the main obstacle to a reconciliation. It is not as if matters would improve if naturalism opted for some version of emergentism or property dualism. The real problem has to do with naturalism's commitment to scientism and metaphysical realism." c.f. Dan Zahavi, "Naturalized Phenomenology," p. 7

rigorous method of first-person experiential observation. This view is based on the argument that, because cognitive science – at least, in its current incarnation -- fails to adequately account for, describe, or otherwise explain subjective experience and its relationship to cognitive processes and the brain, it necessarily fails to provide a complete account of the mental. To use the terminology made famous by analytic philosopher Joseph Levine, cognitive science as it is currently formulated may suffer from an "explanatory gap."[84] Promoters of naturalized phenomenology argue that by incorporating the methods of Husserlian phenomenology into the research framework of the cognitive sciences that this "gap" can be filled. Thus, efforts at naturalizing phenomenology have focused on incorporating phenomenological methods into various stages of standard neurocognitive research programs by developing (a) feasible approaches to the practical integration of phenomenological and scientific methodologies, and (b) ways of representing phenomenological data in a manner communicable to the rest of the cognitive scientific framework.

The critique of cognitive science posed by those in favor of incorporating phenomenological methods into its methodology is based on a characterization of the discipline as a research approach which implies or presupposes certain theoretical assumptions about the mind. In their article, "Beyond the Gap: An Introduction to Naturalizing Phenomenology," a group of theorists associated with the Phénoménologie et Cognition Research Group in France

---

[84] c.f. Joseph Levine, "Materialism and Qualia: The Explanatory Gap"

argue that the "explanatory gap" argument rests on an interpretation of cognitive science based on five general principles:

1. In sharp contrast to its theoretical and methodological predecessor, behaviorism, cognitive science offers a theory of what goes on "inside" of cognizing organisms as they engage in cognition.[85] That is, while behaviorism refuses to infer anything about what occurs "within" the "black box" of an organism's mentality from observation of its behavior, cognitive science is concerned explicitly with drawing such inferences. Cognitive science's "main goal is to explain cognitive behavior by devising hypotheses about the internal mechanisms responsible for behavioral data and eventually by seeking lawful correlations between these data and elements of the environment."[86]

2. Cognitive science makes the assumption that what goes on "inside the black box" is an explicit process, usually referred to as "information processing," or, simply "cognition." As we shall see, what exactly this "information processing" entails is an issue of contention; however, we can say preliminarily that, historically, the most prominent accounts of cognition have been the "computational-symbolic," the "connectionist-dynamic," and the "embodied-enactive" accounts, which will be explained in more detail below.

3. Cognitive science rests on the assumption that the processes underyling and sustaining cognition can be explained in terms of various degrees of abstraction, each level of which can be studied by particular disciplines. "At the most concrete level the explanation is biological, whereas at the most abstract level, the explanation is only functional in the sense that 'information' processes are characterized in terms of abstract entities, functionally defined."[87]

---

[85] Roy and colleagues consistently use the term "cognitive behavior" when describing cognitive science's object of study, presumably implying that cognitive science is primarily concerned with those cognitions involved with behavior. However, in recent years, with the rise of highly accurate non-invasive neuroimaging techniques, cognitive neuroscientists have gained the ability to study the neurocognitive processes which occur during resting states, i.e. when subjects are not involved in any behavior at all. Thus, this first point regarding the characterization of cognitive science should be expanded to say that cognitive science studied what is going on "inside of the black box" even in situations in which one is not engaged in any behavior. c.f. Marcus Raichle, "The Brain's Dark Energy"

[86] Jean-Michel Roy, et al., "Beyond the Gap," pp. 4, 12

[87] Jean-Michel Roy, et al., "Beyond the Gap," p. 5

4. Cognitive science takes this most abstract level of explanation, a functional account of the information processing activity responsible for cognition, to be sufficient for or equivalent to an account of the mental. It is through this hypothesis that cognitive science becomes, in the strictest sense, "a new form of the theory of mind."[88]

5. Finally, by interpreting cognition in this way, cognitive science claims to have discovered a "noncontroversial materialist solution" to the mind-body problem: "Because they are purely functional in character, mental entities postulated at the upper level of explanation do not have to be seen as ontologically different from the biological ones postulated at the lower level. They are exactly the same although characterized in terms of the role they play in cognitive processing."[89] The concept of a mind *qua* cognition is simply an account of the embodied brain framed in abstracted functionalist terms.

Within cognitive science so defined, we can speak of three general types of approaches, differentiated primarily by their accounts of information processing: "computational-symbolic," "connectionist-dynamic," and "embodied-enactive" approaches. These three approaches and their associated accounts of cognition have all been present since the earliest formulations of cognitive science, with the computational-symbolic approach ceding its early predominance in the field over time such that all three now coexistent in contemporary research.[90]

On the computational-symbolic account, the mind processes information by manipulating discrete symbols according to specific rules in a manner akin to that outlined in the general theory of computation derived from the early work of Alan Turing and John von Neumann. On this view, cognition can be explained by recourse to an account of the mind as

---

[88] Jean-Michel Roy, et al., "Beyond the Gap," p. 5
[89] Jean-Michel Roy, et al., "Beyond the Gap," p. 5
[90] Jean-Michel Roy, et al., "Beyond the Gap," p. 5

including a number of mental representations analogous to computer data structures which are processed by procedures similar to computational algorithms.[91] This account of cognition is closely associated with descriptions of the mind which employ the "mind-computer" or "brain-computer" analogies, as well as the thesis of the "multiple realizability of the mental," on which particular mental properties, states, and events can be instantiated on various types of "hardware," biological or otherwise.

Beginning the late 1970s, connectionism challenged the computational account of cognition by proposing that cognition does not function through the rule-based manipulation of symbols, but rather emerges from the regular dynamical behavior of a system of networks, which can be interpreted as cognitive rules and representations at higher levels of description.[92] Thus, connectionism can be seen as questioning the computational-symbolic account's assumption that mental representations are "static structures of discrete symbols" which are transformed by "discrete, effectively instantaneous, and sequential" cognitive operations enacted by individual modules specifically dedicated particular types of processing.[93]

Rather, on the connectionist account, information is stored non-symbolically in the connection strengths between the individual units of a neural network. Based on these connection strengths and the activity of neighboring neurons, information processing occurs

---

[91] Paul Thagard, *Mind*, pp. 11-13
[92] Jean-Michel Roy, et al., "Beyond the Gap," p. 6
[93] Timothy van Geldern & Robert Port ,"It's About Time," pp. 1-2, 12-13

through the dynamic and graded evolution of activity in a neural network, allowing information to be represented through characteristic patterns of such activity across the network.[94] Thus, on the connectionist account, high-level structures or entities *emerge* from self-organizing interactions between lower level units of a system. Therefore, connectionist accounts of information processing not only call into question the computationalist view of cognitive representation and processing as discretely individuated and localized, but also challenge the idea that they are instantiated in ways unrelated to the underlying "hardware" of the brain.[95]

While connectionism has from its start been based on a systems-based approach to cognition, it was only beginning in the early 1990s that connectionist approaches began to strongly emphasize the temporally dynamic aspects of neural systems, giving rise to a truly "connectionist-dynamic" approach to cognition:

> "Virtually from the outset […] the static, stimulus-response nature of a large class of connectionist models introduced in the mid to late 1980's was recognized, and led to a second-wave of *recurrent* connectionist models. […] Once modelers began working with recurrent connectionist networks, analyzing the evolution of their internal patterns of activation over time, determining how their internal representations clustered, etc., they were fully part of the Dynamical Hypothesis paradigm."[96]

By foregrounding the temporal dynamics of information processing within neural networks, connectionist theorists were able to subsume their theory of cognition into the

---

[94] James Garson, "Connectionism"
[95] Robert M. French & Elizabeth Thomas, "The Dynamical Hypothesis in Cognitive Science," p. 103
[96] Robert M. French & Elizabeth Thomas, "The Dynamical Hypothesis in Cognitive Science," p. 102

broader mathematical and scientific framework of dynamical systems theory.[97] Thus, on the connectionist-dynamic account, cognition would come to be thought of as being best explained in terms of self-organizing spatiotemporal patterns of activation within a dynamical neural network, thereby lending itself to description in terms of the mathematical and conceptual tools of dynamical systems theory.[98]

While the computational-symbolic and connectionist-dynamic accounts of cognition differ markedly in their portrayals of cognitive information processing, they both – at least in their most common forms -- share a commitment to "representational" theories of cognition on which internal entities stand for or correspond to world properties and events.[99] While computational-symbolic accounts often portray mental representations as being analogous to computational data structures which correspond to things in the world, connectionist-dynamic accounts often portray spatiotemporal patterns of network activation as giving rise to emergent higher-order structures which function in the same way. The embodied approach to cognition, in contrast, expands the implications of the dynamical systems account to the point of undermining the representationalist assumptions present in both computational-symbolic and connectionist-dynamic approaches.[100]

---

[97] Timothy van Geldern & Robert Port ,"It's About Time," p. 5
[98] Timothy van Geldern & Robert Port ,"It's About Time," pp. 7-9, 13-14
[99] Jean-Michel Roy, et al., "Beyond the Gap," p. 6
[100] Fred Keijzer, "Representation in Dynamic and Embodied Cognition," pp. 275-276

The "embodied cognition" approach can be seen as beginning with the intuition, derived from dynamic approaches to cognition, that it is the continual process of mutual influence between the of the nervous system, body, and environment which gives rise to cognition. In the introduction to their influential book promoting the dynamical systems approach to cognition, *Mind as Motion*, psychologists Robert F. Port and Tim van Gelder describe the brain, body, and environment as subsystems coupled in a "mutual coevolution" from which cognition emerges:

> "If cognitive systems are dynamical systems, then they must likewise be complexes of interacting change. Since the nervous system, body, and environment are all continuously evolving and simultaneously influencing one another, the cognitive system cannot be simply the encapsulated brain; rather, it is a single unified system embracing all three. The cognitive system does not interact with the body and the external world by means of periodic symbolic inputs and outputs; rather, inner and outer processes are *coupled*, so that both sets of processes are continually influencing each other."[101]

While some associated with the embodied cognition approach are content to study cognitive processes within the framework of dynamical interaction with a theory of emergent representations intact,[102] more radical partisans of the embodied approach hold that cognition can be explained entirely in terms of representationally bereft dynamical systems. On such

---

[101] Timothy van Gelder & Robert Port ,"It's About Time," p. 13
[102] c.f., for example, Andy Clark, "The Dynamical Challenge," p. 475: "I can find no clean and compelling route from the various guiding dynamical ideas to the strong conclusions expressed in the Radical Embodied Cognition Thesis. […] [T]he real challenge lies not in the supposed implications for notions of representation and computation but in the ideas concerning the dense spatial and temporal interplay between neural, bodily and environmental factors."

views, cognitive processes are thought of as emerging in their entirety "from the nonlinear and circular causality" of continuous sensorimotor interactions involving the brain, body, and environment:

> "The central idea of the embodied approach is that cognition is the exercise of skillful know-how in situated and embodied action. Cognitive structures and processes emerge from recurrent sensorimotor patterns that govern perception and action in autonomous and situated agents. Cognition as skillful know-how is not reducible to prespecified problem solving, because the cognitive system both poses the problems and specifies what actions need to be taken for their solution. […] [S]tructures and processes, including those describable as cognitive and emotional, extend throughout the body and loop through the material, social, and cultural environments in which the body is embedded; they are not limited to neural processes inside the skull." [103]

Thus, from the perspective of radical embodied approaches to cognition, embodiment and situatedness are constitutive of perceiving, knowing, and doing and, therefore, cognition can be explained non-representationally as a situated activity which emerges from the systemic totality of brain-body-environment interaction.[104]

One anti-representationalist embodied approach to cognition which has been of particular significance within the project of naturalizing phenomenology has been the "enactive" approach to cognition. The concept of enaction and the term "enactive approach" were introduced into cognitive science by Francisco Varela, Evan Thompson, and Eleanor Rosch in their influential 1991 book *The Embodied Mind*. Summarizing the collection of concepts found

---

[103] Evan Thompson, *Mind in Life*, pp. 11-12
[104] Tom Froese, "Hume and the Enactive Approach to Mind," p. 105

in the early work of Fransisco Varela and Humberto Maturana, developments introduced in *The Embodied Mind*, and later elaborations by Varela and himself, Evan Thompson describes the enactive approach as consisting of five central, intimately related tenets:

1. "[L]iving beings are autonomous agents that actively generate and maintain themselves, and thereby also enact or bring forth their own cognitive domains."
2. "[T[he nervous system is an autonomous dynamic system: It actively generates and maintains its own coherent and meaningful patterns of activity, according to its operation as a circular and reentrant network of interacting neurons. The nervous system does not process information in the computationalist sense, but creates meaning."
3. "Cognition is the exercise of skillful know-how in situated and embodied action. Cognitive structures and processes emerge from recurrent sensorimotor patterns of perception and action. Sensorimotor coupling between organism and environment modulates, but does not determine, the formation of endogenous, dynamic patterns of neural activity, which in turn inform sensorimotor coupling."
4. "[A] cognitive being's world is not a prespecified, external realm, represented internally by its brain, but a relational domain enacted or brought forth by that being's autonomous agency and mode of coupling with the environment."
5. "[E]xperience is not an epiphenomenal side issue, but central to any understanding o f the mind, and needs to be investigated in a careful phenomenological manner. For this reason, the enactive approach maintains that mind science and phenomenological investigations of human experience need to be pursued in a complementary and mutually informing way."[105]

Thus, we can see the account of cognition put forth by the enactive approach as a unique combination of the embodied cognition theory's intersystemic dynamical account of emergent cognition and the phenomenological concept of constitution. On the enactive account of cognition, cognitive beings "bring forth," disclose, or constitute the experienced world in a way

[105] Evan Thompson, *Mind in Life*, pp. 13-14

that “bears the stamp of their own structure” in the form of cognitive structures which emerge from recurrent dynamical patterns of activity in the cyclical relationship between the brain, body, and world.[106] As Varela, Thompson, and Rosch out it, “Instead of representing an independent world, they enact a world as a domain of distinctions that is inseparable from the structure embodied by the cognitive system.”[107]

By operating within the theoretical framework provided by the cognitivist theses outlined above in combination with any of these approaches to cognition, cognitive science can claim that, through the study of the cognitive processes that give rise to the mental, it is in a position to (a) give a comprehensive scientific account of the mental, and (b) claim “the traditional philosophical mind-body problem” as a scientific problem which it has the theoretico-methodological tools to solve.[108] However, as we shall see, the explanatory gap argument calls both of these conclusions into question.

The central thrust of the explanatory gap argument is that, while cognitive science may be successful in offering a theory of cognition *qua* information processing or dynamical emergence, it fails to give a comprehensive account of the mental because it fails to explain or account for subjective experience. Researchers from the Phénoménologie et Cognition Research Group summarize the argument:

---

[106] Evan Thompson, *Mind in Life*, pp. 14-15, 59
[107] Francisco J. Varela, et al., *The Embodied Mind*, p. 140
[108] Jean-Michel Roy, et al., “Beyond the Gap,” pp. 6-7

> "According to the explanatory gap argument, however successful any of these proposed approaches can be […] when measured in terms of explanation and prediction of cognitive behavioral data, the naturalized mentalism that is thus part and parcel of Cognitive Science as a whole fails to fully account for the mental as it looks to us subjectively; that is, it fails to account for mental *phenomena* properly speaking. […] In short, it is a theory of the mind without being a theory of consciousness. It is a theory of what goes on in our minds when they are cognizing without being a theory of what is it like to be a cognizing mind."[109]

On this view, cognitive science fails to offer a theoretical framework to close the Cartesian dualist explanatory gap between mind and matter by simply opening a new gap between cognition and subjective mental phenomena.[110]

One way of conceptualizing this problem is to use the threefold distinction, put forth by Ray Jackendoff in his precociously insightful 1987 book, *Conciousness and the Computational Mind,* between the nervous system, the cognitive mind, and the mind as subjectively experienced.[111] In Jackendoff's schema, cognitivist accounts of the mental have split the traditional Cartesian mind-body problem into two separate issues: the relationship between the brain and cognition, a cognitive mind-body problem; and the relationship between cognition and subjective experience, a so-called "mind-mind problem." Using this terminology, the

---

[109] Jean-Michel Roy, et al., "Beyond the Gap," p. 7
[110] Evan Thompson, *Mind in Life*, p. 6
[111] Ray Jackendoff, *Conciousness and the Computational Mind*, p. 20. Jackendoff uses the terms "brain,""computational mind," and "phenomenological mind." Here we have done away with the latter two terms in order to (a) indicate that the problem can be broadly applied to any cognitivist account of the mind, computational, dynamical, embodied, or otherwise, and (b) consistently reserve the term "phenomenology" and its derivatives for cases when we refer to the specific philosophical tradition associated with Husserl, etc. which is typically referred to by that name.

explanatory gap argument can be articulated as such: even if we grant that cognitive science has provided a framework whereby the cognitive mind-body problem can be solved, or, indeed, already has been satisfactorily solved, it has failed to provide a theoretico-methodological framework for solving the cognitive-experiential mind-mind problem. Having failed to provide such a framework, cognitive science as thus far construed fails to, and may even be theoretically or methodologically unable to, provide a complete account of the mental.

In contrast to more radical partisans of the explanatory gap argument, who hold that cognitive science is committed to a theory of mind or set of methods which bars it from giving an adequate account of subjective experience, promoters of novel integrations of cognitive and phenomenological research programs argue that cognitive science can play an integral role in the study of subjective experience, but not without major methodological supplements or modifications.

Proponents of the incorporation of phenomenological methods into the cognitive sciences' standard experimental research program hold that such incorporation can provide a solution to the explanatory gap problem by providing cognitive science with a rigorous methodology for the collection of qualitative experiential data. Those amongst this group argue that the phenomenological tradition which began with Husserl offers the best system for filling this gap because it:

a. "offers philosophically informed methodological tools that can disclose significant – but frequently overlooked – dimensions of experience;"

b. "can help to define good empirical questions and contribute to the design of behavioural and brain-imaging experiments;"

c. "can frame interpretations of empirical data in ways that are scientifically rigorous without being reductionistic[;]"

d. has a long history of success in the rigorous experiential analysis of a wide range of subjective phenomena relevant to cognitive science and modern analytic philosophy of mind, including consciousness, self-consciousness, intentionality, the temporality of experience, perception, embodiment, action, agency, and the understanding of self and others.[112]

As phenomenologist Dan Zahavi puts it:

> "In offering such analyses, phenomenology addresses issues that are crucial for an understanding of the true complexity of consciousness and might even offer a conceptual framework for understanding the mind that is of considerably more value than some of the models currently in vogue in cognitive science."[113]

Given this analysis, however, a number of theoretical and methodological questions still remain about *how* exactly phenomenology is to be incorporated into the cognitive sciences. First, practically speaking, what are the most feasible and effective ways for such a methodological incorporation to be accomplished? Into what stage or stages in the general framework of the cognitive research program should phenomenological methods be introduced? Second, what are the best ways of representing phenomenological data so that they can be successfully communicated, correlated, and understood in conjunction with the rest of the cognitive scientific framework? How is the theoretical relationship between this data and other types of data to be conceived? In the following section, we will explore various frameworks for

---

[112] Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind*, pp. 218-219
[113] Dan Zahavi, "Naturalized Phenomenology," p. 8

incorporating phenomenological methods into the cognitive sciences and how they address these questions while also addressing the Husserlian critique of naturalism.

2.1.3.3 FRAMEWORKS FOR NATURALIZING PHENOMENOLOGY

In recent years, a renewed interest in the Husserlian tradition of transcendental phenomenology, not only within the field of phenomenology proper,[114] but also in the cognitive sciences and analytic philosophy,[115] has motivated a number of discussions regarding the best ways to promote fruitful interaction between transcendental phenomenology and the psychological sciences. These discussions, broadly speaking, have led to the introduction of the concept of, and the active development of projects aimed at, the "naturalization" of phenomenology. What exactly such naturalization entails or should entail, however, is something which is still up for debate. On the one hand, more modest proposals for the naturalization of phenomenology have promoted the creation of meaningful and productive communication between phenomenology and the sciences by allowing for the scientific-naturalist reinterpretation of transcendental phenomenological findings, thereby creating a relationship of mutual influence between phenomenological and scientific research programs. On the other hand, more radical proposals have called for the complete subsumption of phenomenology, its methods, and its findings into the explanatory framework of the natural

---

[114] c.f., for example, Donn Welton (ed.), *The New Husserl*
[115] Jean-Michel Roy, et al., "Beyond the Gap," p. 56-63

sciences, arguing that modern developments in scientific mathematics have overthrown the conceptual basis for crucial aspects of Husserl's antinaturalism. Here, we will examine four proposed frameworks for naturalizing phenomenology which span this range from weak to strong naturalization.

2.1.3.3.1 THE "MUTUAL ENLIGHTENMENT"APPROACH AND "FRONT-LOADED" PHENOMENOLOGY

Many of those interested in the naturalization of phenomenology have attempted to do so by beginning from the theoretical position alluded to by Husserl in his statement that:

> "[E]very analysis or theory of transcendental phenomenology, including […] the theory of transcendental constitution of an Objective world can be produced in the natural realm, when we give up the transcendental attitude. Thus transposed to the realm of transcendental naïveté, it becomes a theory pertaining to internal psychology."[116]

A number of proposals for the naturalization of phenomenology attempt just such a naturalistic "transposition" by developing frameworks whereby phenomenological descriptions of experience are reinterpreted naturalistically in order to be both put to use in scientific psychological research and theories and refined by the suggestions and critique gleaned from scientific findings.

---

[116] Edmund Husserl, *Cartesian Meditations*, p. 131

Many modern theorists interested in bringing phenomenology into this type of mutually influential relationship with the psychological sciences point to the mid-twentieth century phenomenologist Maurice Merleau-Ponty as a theoretical predecessor and a primary source of inspiration. Merleau-Ponty's approach represents a significant divergence from Husserl's in that, by taking into account contemporary scientific findings in psychology and neurology, it aimed to place phenomenology and the natural sciences in a relationship of "mutual illumination" in which they could constrain, motivate, reinterpret, and refine one another's research.[117] However, in so doing, Merleau-Ponty's approach does not abandon the transcendental perspective, thereby reducing phenomenology to merely yet another positive science,[118] but rather calls into question the very opposition between the transcendental and the natural, asking us to "search for a dimension that is beyond both objectivism and subjectivism."[119] Indeed, for Merleau-Ponty, the subject and the world are best interpreted as being in a state of circular co-generation, thereby warranting a structurally analogous mode of study:

> "The world is inseparable from the subject, but from a subject which is nothing but a project of the world, and the subject is inseparable from the world, but from a world which the subject itself projects. The subject is a being-in-the-world

---

[117]Francisco J. Varela, et al., *The Embodied Mind*, p. 15; Dan Zahavi, "Phenomenology and the Project of Naturalization," pp. 341-342; Shaun Gallagher, "Phenomenology and Experimental Design," p. 89
[118] c.f. Maurice Merleau-Ponty, *Phenomenology of Perception*, p. 36
[119] Dan Zahavi, "Phenomenology and the Project of Naturalization," p. 342; c.f. Maurice Merleau-Ponty, "Is There Not a Truth of Naturalism?" in *The Structure of Behavior*

> and the world remains 'subjective' since its texture and articulations are traced out by the subject's movement of transcendence."[120]

A number of present day theorists and scientists have sought to revive Merleau-Ponty's unique approach in a modern guise by bringing phenomenology and the contemporary cognitive sciences into a mutually beneficial relationship akin to that which Merleau-Ponty sought to create with the psychological and neurological sciences of his day. In what follows, we will explore those modern proposals which aim to place phenomenological analyses into this type of fruitful interaction with the cognitive sciences while retaining phenomenology's commitments to the transcendental stance. First, we will discuss the general approach entailed by the modern "mutual enlightenment" approach to phenomenological-cognitive interactions. Then, we will proceed to describe one proposal for a specific methodological implementation of this approach called "front-loaded phenomenology."

The "mutual enlightenment" model for naturalizing phenomenology consists of a complementary approach to understanding mental phenomena whereby phenomenological and neurocognitive findings act to mutually constrain and validate one another in order to secure co-validated hypotheses and theories.[121] On this model, while phenomenological analyses provide the cognitive sciences with the qualitative experiential data thought to be indispensible for a complete account of consciousness, the cognitive sciences in turn encourage

---

[120] Maurice Merleau-Ponty, *Phenomenology of Perception*, pp. 499-500
[121] Dan Zahavi, "Naturalized Phenomenology," pp. 8-9; Francisco J. Varela, "Neurophenomenology," pp. 345, 347; Francisco J. Varela, et al., *The Embodied Mind*, p. 15

the increased refinement of phenomenological findings based on experimental data. Phenomenologist Dan Zahavi explains:

> "[O]n this proposal, the naturalization of phenomenology wouldn't merely consist in stressing the usefulness of phenomenological analyses and distinctions for, say, cognitive science. The point wouldn't merely be that phenomenology might prove indispensable if we wish to obtain a precise description of the explanandum – a *sine qua non* for any successful attempt to identify and localize the relevant neurobiological correlate. It wouldn't merely be a question of employing phenomenological insights in the empirical investigation of the mind. Rather, the idea would be that the influence goes both ways, that is, it would also be a question of letting phenomenology profit from – and be challenged by – empirical findings. This is why it is entirely appropriate to speak of a *mutual enlightenment*."[122]

While it is clear from our previous discussion of the explanatory gap argument how cognitive science might benefit from phenomenological insights, it is not so clear, at least initially, how phenomenology might realistically benefit from interaction with the cognitive sciences. In order to clarify this point, phenomenologist Shaun Gallagher provides two examples of the ways that experimental results from the cognitive sciences might positively influence the phenomenological project.[123] While Gallagher's examples focus on findings from cognitive neuroscience, his points could easily be extrapolated to apply to findings from behavioral or psychophysical paradigms as well. First, if cognitive neuroscience were to show that two different subjective experiences -- for example, two emotions, such as fear and anger -- were correlated with similar patterns of neural activity, these results could motivate

---

[122] Dan Zahavi, "Naturalized Phenomenology," p. 9
[123] Morten Overgaard, "On the Naturalising of Phenomenology," p. 370

phenomenological exploration of previously unconsidered relationships between those experiences. Second, experiments in the cognitive sciences could reveal the limits of particular phenomenological claims. For example, if findings from cognitive neuroscience were to reveal starkly different patterns of neural activity associated with two types of subjective experiences which were thought, on the basis of phenomenological observation, to be intimately related, such findings could form a strong impetus to reconsider those phenomenological conclusions. Therefore, it seems that interaction with the cognitive sciences might benefit phenomenology by providing it with the kinds of checks on its hypotheses that could aide in the refinement of its theories. Importantly, on this proposal, phenomenology is not placed in a position where conflicting scientific results simply override or invalidate its findings. Rather, scientific findings function as the impetus for further phenomenological observation and clarification.

One specific method which Gallagher has suggested for bringing phenomenology and the cognitive sciences into a mutually beneficial relationship is what he calls "front-loaded phenomenology." On this approach, independently developed phenomenological insights are "front-loaded" into the design of neurocognitive experiments in order to inform the way the experiments are set up.[124] Through this method, insights gleaned from either pure phenomenological analysis or scientific experiments which explicitly employ phenomenological

---

[124] Shaun Gallagher , "Phenomenology and Experimental Design," p. 91; Shaun Gallagher & Jesper Brøsted Sørensen, "Experimenting with Phenomenology," p. 125

methods are used to devise potential experimental hypotheses or theoretical distinctions. Gallagher is quick to note, however, that such an approach does not entail the dominance or uncritical acceptance of phenomenological insights, but rather promotes a joint process of reciprocal refinement:

> "To front load phenomenology […] does not mean to simply presuppose phenomenological results obtained by others. Rather it involves testing those results and more generally a dialectical movement between previous insights gained in phenomenology and preliminary trials that will specify or extend these insights for purposes of the particular experiment or empirical investigation."[125]

Gallagher points to a recent surge of scientific research on the distinction between "self-agency" and the "self- ownership" as an illustrative example of the ways in which insights derived from phenomenological analysis can be successfully used to inform cognitive neuroscience research. Indeed, throughout the last decade, a number of cognitive neuroscience studies have explored the distinction, exposed by Gallagher's own phenomenological work, between self-agency and self-ownership in what he refers to as "first order" pre-reflective conscious experience.[126] Gallagher explains this distinction using the example of involuntary movement:

> "In a phenomenological act of reflection on involuntary movement one is able to distinguish two aspects that in the normal experience of intentional action seem to be indistinguishable. If someone moves my body I sense that it is my body that is moving—it is my movement and I experience ownership for the

[125] Shaun Gallagher , "Phenomenology and Experimental Design," p. 91

[126] c.f. Shaun Gallagher, "Sense of Agency and Higher Order Cognition" and "Philosophical Conceptions of the self: Implications for Cognitive Science"

movement—but I do not experience agency for the movement (I have no sense that I intended or caused the movement). This first-order experiential sense of ownership versus agency needs further to be distinguished from the attribution of ownership or agency at a higher-order cognitive level. […] [I]n the case of involuntary movement, I have an immediate, first-order experience of the movement as happening to me (sense of ownership), but not as caused by me (no sense of agency). The senses of ownership and agency are implicitly integral to experience, not only for movement and action, but for thought processes as well (and they are subject to dissociation in schizophrenic symptoms of thought insertion). In phenomenological terms, they characterize our pre-reflective (non-conceptual) self-awareness implicit to the experience of action and cognition."[127]

Specifically guided by this phenomenological insight, cognitive neuroscientists have (a) designed experiments to distinguish the neural correlates of the sense of "self-agency" for actions from those of "other-agency", and (b) looked for and identified the relevant neuronal activity in a brain areas associated with experiential awareness of sensorimotor activity or the body itself, rather than areas associated with higher-order cognitive processes.[128] For example, cognitive neuroscientists Chlöé Farrer and Chris D. Frith found that self-attribution of an action in a basic joy-stick guided computer program was associated with bilateral activation of the anterior insula, while attributing the action to someone else was associated with bilateral activation of the angular gyrus.[129] While Farrer and Frith are not explicit about this point, Gallagher argues that "there are good reasons" for interpreting these results as supporting the

---

[127] Shaun Gallagher & Jesper Brøsted Sørensen, "Experimenting with Phenomenology," p. 126

[128] c.f. Chlöé Farrer and Chris D. Frith, "Experiencing Oneself vs Another Person as Being the Cause of an Action"; Thierry Chaminade and Jean Decety, "Leader or follower? Involvement of the Inferior Parietal Lobule in Agency"; and Jesper Brøsted Sørensen, "The Alien-Hand Experiment"

[129] Chlöé Farrer and Chris D. Frith, "Experiencing Oneself vs Another Person as Being the Cause of an Action," pp. 598, 600-601

hypothesis that agency and ownership can be distinguished at the level of first-order phenomenal of experience:

> "[I]n some respects the experimental paradigm, while clearly distinguishing between senses of agency and ownership, fails to distinguish between the first-order phenomenal level and the level of higher-order attribution. I think there are good reasons for interpreting the results in terms of the first-order phenomenal level of experience. It seems reasonable to think that the kinds of information integrated by the anterior insula — proprioceptive feedback, ecological sensory self-specifications involved in movement, and corollary discharge associated with motor commands — constitute implicit, first-order aspects of motor experience rather than the neural correlates of higher-order cognitive attributions or judgments."[130]

More recent research on the anterior insula has suggested that Gallagher's interpretation is likely to be correct. In a 2009 perspective piece in *Nature Reviews Neuroscience*, functional neuroanatomist A.D. "Bud" Craig argues based on convergent functional, anatomical, and clinical evidence regarding the role of the anterior insular cortex in a wide range of cognitive tasks, including interoception, awareness of body movement, self-recogniton, vocalization and music listening, emotional awareness, risk-prediction and anticipation, present moment visual and auditory awareness, time perception, attention, percept recognition and perceptual decision making, the "feeling of knowing," and cognitive control and performance monitoring, that the anterior insular cortex is the neural concomitant of human awareness:

> "No other region of the brain is activated in all of these tasks, and the only feature that is common to all of these tasks is that they engage the awareness of the subjects. […] [T]he available data provide compelling support for the concept

[130] Shaun Gallagher , "Phenomenology and Experimental Design," p. 93, footnote 9

> that the AIC contains the anatomical substrate for the evolved capacity of humans to be aware of themselves, others and the environment. In my opinion, these data suggest that the AIC uniquely fulfils the requirements to be the neural correlate of awareness. "[131]

Thus, it is clear that front-loading phenomenology offers a potentially powerful method for bringing phenomenology into conversation with the cognitive sciences. Now, having explored the more modest proposals for naturalizing phenomenology, which aim to place it in conversation with the cognitive sciences while keeping its Husserlian transcendental commitments intact, we will turn to a more radical proposal, which calls into question the very basis of Husserl's objections to the naturalization of phenomenology.

2.1.3.3.2 STRONG NATURALIZATION

Theorists of the Phénoménologie et Cognition Research Group, Jean-Michel Roy, Jean Petitot, Bernard Pachoud, and Francsico J. Varela argue that if Husserlian phenomenology is to be put to use in the cognitive sciences, it must be naturalized in a way which integrates it "into an explanatory framework where every acceptable property is made continuous with the properties admitted by the natural sciences," thereby yielding a "mathematical physics of pure lived experience."[132] From the perspective of Husserlian transcendental phenomenology, this is clearly a far more radical proposal than those discussed thus far. The authors of this proposal

---

[131] A.D. "Bud" Craig, "How Do You Feel — Now? The Anterior Insula and Human Awareness," pp. 65-66

[132] Jean-Michel Roy, et al., "Beyond the Gap," pp. 2, 40

seek not only to put the independently derived conclusions of transcendental phenomenology and cognitive science into mutually beneficial interaction, but to fully integrate phenomenology into the experimental framework of the cognitive sciences by calling into question the basis of the very distinction between the natural and the transcendental in Husserl's thought:

> "The project of integrating a phenomenological investigation of a Husserlian kind into the contemporary sciences of cognition therefore leads to an obvious paradox. On the one hand, this investigation should be not only descriptive but also explanatory and naturalist in the sense of accounting for the existence and nature of phenomenological data on the basis of lower levels of explanation, and in particular of the mathematical models of the neurobiological level of explanation. On the other hand, Husserlian phenomenology is intrinsically rooted in a perspective quite at variance with that of naturalist explanation, and in fact quite opposed to it. Once again, far from being a new branch of the natural sciences, Husserlian phenomenology claims to incarnate a new sort of knowledge epistemologically and ontologically different from them, and furthermore capable of founding them all. Linking Husserlian descriptions of cognitive phenomena and the contemporary sciences of cognition thus seems to require cutting Husserlian phenomenology from its antinaturalist roots, that is to say, naturalizing it."[133]

Roy and colleagues call into question the theoretical basis for Husserl's strict denial of the possibility of a naturalistic account of experience by arguing that his conclusions about the incommensurability of the abstracted deductions of science and mathematics, on the one hand, and the structure and content of lived experience on the other, have been made obsolete by the development of dynamical systems theory. Husserl's conceptions of science and mathematics – at least with regards to those forms of which which might be potentially relevant to the study of

---

[133] Jean-Michel Roy, et al., "Beyond the Gap," p. 43

pure experience – are primarily based on his accounts of the geometry and Galilean theoretical physics of his time.[134] For Husserl, both geometry and physics are able to function on the level of axiomatically-rooted explications of "exact essences" because they deal with ideal and fully determinable essences[135] in place of what he considered the imprecise or "vague" essences of temporally inconsistent conscious experience. Roy and colleagues explain his arguments in the first book of his *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy* towards this end:

> "[G]eometry could only become what it is because it has been 'torn out' of the Heraclitean flux of sensible morphologies, because it has excluded the universe of 'vague morphological essences' and inexact proto-geometrical forms akin to perception and natural language. Similarly, in Husserl's opinion, starting with Galileo, physics attempted for nature what mathematics had already achieved with geometry. It tried to axiomatize the sciences of material reality. But here again there is a reverse side to this ideal. Just as with geometry, first the Heraclitean flux of sensible morphologies, and then the sensible qualities across which phenomena are concretely given, had to be excluded. These proto-geometrical morphologies and these secondary qualities were considered impossible to mathematize. And Husserl thought that this limitation of the Galilean sciences was an insuperable one."[136]

Thus, Husserl considers the "vague morphological essences and inexact proto-geometrical forms" of experience to be insurmountably resistant to mathematical or scientific

---

[134] Jean-Michel Roy, et al., "Beyond the Gap," pp. 40 -43
[135] Husserl consistently uses the term "essences" where it is perhaps more natural to use the term "conception" as a result of his anti-psychological, transcendental account of subjectivity. For Husserl, to speak of "conceptions "where he speaks of "essences" would reflect a denial of the transcendental status of subjectivity by naturalizing it in psychological terms.
[136] Jean-Michel Roy, et al., "Beyond the Gap" p. 40

explanation. It is this rejection of the possibility of a mathematical or axiomatic eidetics[137] of non-ideal or inexact essences which leads directly to Husserl's belief in the impossibility of a mathematico-scientific account of conscious experience, and to relegate his eidetics of experience (i.e. phenomenology) to the level of description.[138] Thus, in the first book of his *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy*, Husserl asks, "Should one, or even can one, constitute phenomenology as a geometry of pure lived experience?"[139] In response, he gives a definitely negative answer, arguing that "conceived as the descriptive science of essences, [phenomenology] belongs to a fundamental class of eidetic sciences, one which differs totally from the mathematical sciences."[140] For Husserl, even if mathematical tools more appropriate to phenomenological data were to be invented, they would still necessarily distort the data themselves by substituting them with the ideal forms of mathematics.[141] It is this line of argumentation which leads Husserl to his staunch opposition to the possibility of naturalizing phenomenology in the sense of integrating it into a mathematico-scientific explanatory framework.

---

137 That is, the study of essences. See note 52

138 Jean-Michel Roy, et al., "Beyond the Gap," pp. 31, 41

139 Edmund Husserl, *Ideen zu Einer Reinen Phänomenologie und Phänomenologischen Philosophie, Book 1*, §72, p. 165; translated in Jean-Michel Roy, et al., "Beyond the Gap," p. 42; c.f. Edmund Husserl, *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy: First Book*, p. 161 for an alternative translation

140 *Ibid*.

141 Jean-Michel Roy, et al., "Beyond the Gap," p. 50; Edmund Husserl, *Ideen zu Einer Reinen Phänomenologie und Phänomenologischen Philosophie, Book 1*, §75; c.f. *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy: First Book*, pp. 169-170

In contraposition, Roy, Petitot, Pachoud, and Varela argue that Husserl's view "is the result of having mistaken certain contingent limitations of the mathematical and material sciences of his time for absolute ones." [142] On their view: "[M]ost of the genuinely scientific reasons that Husserl might have had for refusing to allow his phenomenology to be integrated into the field of the natural sciences […] have been invalidated by progress in the sciences and can now be regarded as false. "[143] In support of this claim, they argue that the physico-mathematical theories of dynamical systems theory used within the natural sciences provide the necessary mathematical tools to precisely model and explain the emergence of what Husserl referred to as the "inexact morphological essences" of experience. Given its complexity and distinctiveness, it is worth quoting their argumentation at length:

> "With respect to natural morphologies, […] there do now exist *physical* theories of qualitative manifestation. These are physico-mathematical theories (such as those dealing with catastrophes, attractors and bifurcations of nonlinear dynamical systems, critical phenomena and symmetry breakings, self-organization and critical self-organizing states, nonlinear thermodynamics and dissipative structures, and so on) which make it possible to explain how small-scale ('microscopic') units can get organized into large scale ('macroscopic') emergent structures on the basis of coordinated (cooperative and conflictual) collective behavior situated at an intermediary ('mesoscopic') level. Such theories represent the first steps of a qualitative physics of phenomenal morphologies, of what could be termed a 'pheno-physics.' "[144]

---

[142] Jean-Michel Roy, et al., "Beyond the Gap," p. 42
[143] Jean-Michel Roy, et al., "Beyond the Gap," p. 54
[144] Jean-Michel Roy, et al., "Beyond the Gap," p. 55

They argue that such theories have overthrown Husserl's conception of the impossibility of a physics or geometry of experience by providing (a) a framework whereby the "morphologically emergent macro level" of phenomenally salient experience can be explained in terms of the self-organization of discontinuous "micro" structures of dynamically coupled qualitative experiences and their material substrates, and (b) differential calculus-based geometrical and topological tools for the precise "morphodynamical modeling" of spatiotemporally dynamic aspects of experience.[145] Therefore, they conclude that, with the development of dynamical systems theory, Husserl's "inexact morphological essences" of experience have become amenable to mathematico-scientific description without being subjected to the idealization required by the axiomatic approach of the physics and geometry of Husserl's day.

Based on these considerations, Roy and colleagues argue that Husserl's objections to the possibility of precise mathematical description of experience have been overthrown by the development of dynamical systems theory, thereby allowing for the possibility of mathematical descriptions of phenomenological analyses and, therefore, the incorporation of phenomenological descriptions into the broader mathematico-scientific framework of the natural sciences. Most importantly for the project of incorporating phenomenology into the cognitive sciences, integrating phenomenological descriptions into this common framework

---

[145] Jean-Michel Roy, et al., "Beyond the Gap," pp. 55-56, c.f. also Evan Thompson, *Mind in Life*, p. 85

allows for both descriptions and explanations of the dynamically intertwined relationship between neurodynamics and experience. It is efforts towards developing precisely such a level of description and explanation which we will explore as our discussion turns to the next framework for naturalizing phenomenology, "neurophenomenology."

2.1.3.3.3 NEUROPHENOMENOLOGY

By far the most successful and influential framework for naturalizing phenomenology has been the approach, first proposed and espoused by Francisco Varela,[146] but later developed by Antoine Lutz and Evan Thompson,[147] called "neurophenomenology." Neurophenomenology attempts to integrate (a) phenomenological accounts of the structure of experience, (b) formal dynamical models of these structural invariants, and (c) scientific research on the realizations of these models in biological systems in order to gain insights into the co-generative relationships between the body, the environment, and the mind.[148] Thus, neurophenomenology can be described as being rooted in the theoretico-methodological intersection between the enactive approach in cognitive science and the phenomenological approach of Maurice Merleau-Ponty. Following Merleau-Ponty's conception of the cyclical co-generation of the world and the

---

[146] c.f. Francisco J. Varela, "'Neurophenomenology"

[147] c.f. Antoine Lutz, "Toward a Neurophenomenology as an Account of Generative Passages"; Antoine Lutz & Evan Thompson, "Neurophenomenology"; and Evan Thompson, *Mind in Life*

[148] Evan Thompson, *Mind in Life*, p. 329; Antoine Lutz & Evan Thompson, "Neurophenomenology," p. 41; Evan Thompson & Francisco J. Varela, "Radical Embodiment"; David Rudrauf, et al. , "From Autopoiesis to Neurophenomenology," pp. 40-43

subject, neurophenomenology aims to describe consciousness in terms of the "generative passages" between the "cycles of operation" inherent in interactions between the environment, body, and mind.[149] Further, it integrates the insights of dynamical and embodied approaches to cognition into this framework by explaining this mutual co-generation in terms of dynamical systems theory. By rooting its research and analysis in this theoretical perspective, the neurophenomenological approach is aimed at changing "the entire framework" within which the issues of the hard problem of consciousness and the explanatory gap problem are discussed in order to provide a "methodological remedy" for them.[150]

Based on this theoretical approach, neurophenomenology uses various methods to place phenomenological and neurocognitive research into a relationship of mutual constraint and refinement. Natalie Depraz summarizes this approach:

> "The idea that guided [Varela's] most recent research can be stated as follows: putting 'mutual generative constraints' to work allows us to take another step ahead: rather than only intertwining the empirical and phenomenological levels (thus creating confusing hybrid objects), we can show how, with co-generativity or, as he said, with these "generative passages," the dynamics of the empirical data and the phenomenological accounts benefit from each other in the sense that attention to the inner sequential distinctions provided by the unfolding of the dynamics produces refined phenomenological analyses of the subjective

---

149 Antoine Lutz & Evan Thompson, "Neurophenomenology," p. 41; Natalie Depraz, "Confronting Death Before Death" pp. 87, 91; Francisco J. Varela, "The Naturalization of Phenomenology as the Transcendence of Nature"

150 c.f. Francisco Varela, "Neurophenomenology"

> experience, while attention to the categories furnished by the phenomenological accounts sheds light on the description of the neuronal dynamics."[151]

Thus, neurophenomology integrates features of both the "mutual enlightenment" approach to naturalizing phenomenology and the more radical approach espoused by the theorists of the Phénoménologie et Cognition Research Group. While the neurophenomenological approach is based on a model of mutually constraining and enlightening interactions between phenomenology and the cognitive sciences, it allows that conscious awareness and the mind in general emerge from and are shaped by – but, importantly, cannot be reduced to – self-organizing dynamical biological systems. Evan Thompson explains:

> "[T]he naturalism neurophenomenology offers is not a reductionist one. Because dynamic systems theory is concerned with geometrical and topological forms of activity, it possesses an ideality that makes it neutral with respect to the distinction between the physical and the phenomenal, but also applicable to both. Dynamical descriptions can be mapped onto biological systems and shown to be realized in their properties (for example, the collective variable of phase synchrony can be grounded in the electrophysiological properties of neurons), and dynamical descriptions can be mapped onto what Husserl calls eidetic features, the invariable phenomenal forms or structures of experience. One reason the naturalism of neurophenomenology is supposed to be nonreductive is that these three types of analysis—phenomenological, biological, and dynamical are equally needed, and no attempt is made to reduce one to the other or eliminate one in favor of another. For this reason, Varela describes neurophenomenology as 'triple-braided.'"[152]

---

[151] Natalie Depraz, "Confronting Death Before Death" p. 91
[152] Evan Thompson, *Mind in Life*, p. 357; c.f. also Francisco Varela, "Neurophenomenology," p. 334

Neurophenomenology, then, while emphasizing the dynamical co-generation of the mind, environment, and biological life, does not assign explanatory or ontological primacy to any of them. Thus, by maintaining the non-reductive dynamical interpretation provided by the enactivist approach to cognition, neurophenomenology maintains a simultaneous commitment to (a) the emergence of conscious experience from biological and environmental systems, and (b) the phenomenological constitution of the experience of the biological and environmental.[153] In this way, neurophenomenology maintains the transcendental status of consciousness and rejects naturalistic reductionism and objectivism, while nevertheless challenging Husserl's strict opposition to naturalistic explanations. [154]

Methodologically speaking, in his first articulation of the neurophenomenological approach, Francisco Varela described it as a research program that sought "*articulations by mutual constraints* between the field of phenomena revealed by experience and the correlative

---

[153] Evan Thompson, *Mind in Life*, pp. 86-87

[154] c.f. Tim Bayne, "Closing the gap? Some Questions for Neurophenomenology," pp. 358-359 for objections to the coherence of this position from the perspective of analytic philosophy. Bayne argues: "In short, Varela and Thompson's case for reciprocal causal relations between phenomenal states and neuronal states seems to be inconsistent with their rejection of identity theories of consciousness and with their commitment to an embodied account of cognition."Thompson addresses this objection in *Mind in Life*, pp. 357-359: "[I]n bringing the resources of phenomenology to bear on our understanding of nature, the very idea of nature is transformed. The physicalist conception of nature as an objective reduction base for the phenomenal no longer holds sway, and instead nature is reexamined from a phenomenological angle. In this way, we find ourselves needing to use certain concepts, most notably that of the lived body, […] that cannot be factored into the dichotomous categories of the physical and the phenomenal, or the objective and the subjective."

field of phenomena established by the cognitive sciences."[155] Thus far, neurophenomenology has espoused two general approaches to placing phenomenological insights and scientific findings into a relationship of mutual constraint and refinement. First, theorists acting within the neurophenomenological framework have used combinations of evidence from independent phenomenological description and neurocognitive research – and, perhaps most importantly, analysis of the dynamical coherences between the two – to develop and validate new hypotheses regarding various aspects of subjective experience. Second, neurophenomenology espouses methods whereby phenomenological description is directly incorporated into cognitive science research by training subjects in phenomenological methods, thereby allowing their first-person data to guide the interpretation of neurocognitive data in various ways.

Perhaps the best example of this first neuropheneomenological approach is Varela's own analysis of time consciousness based on structural congruities between Husserl's phenomenological analysis of the temporality of experience and a scientific account of the temporal dynamics of distributed neural assemblies. Varela states that he considered this analysis to be "an acid test of the entire neurophenomenological enterprise"[156]: while the argumentation he put forth in conjunction with Roy, Petitot, and Pachoud in the context of the Phénoménologie et Cognition Research Group made clear that such an analysis could be done

---

[155] Francisco Varela, "Neurophenomenology," p. 347
[156] Francisco Varela, "The Specious Present," pp. 267, 305

in theory, Varela's neurophenomenological account of time consciousness was to demonstrate that it could be done in practice, and fruitfully so.

In Husserl's analysis, briefly, time consciousness is described in terms of two phenomenologically and conceptually distinct levels of temporality. First, temporal consciousness can be described in terms of the *temporal objects* of experience, the individual intentional[157] acts of consciousness that constitute object-events of a specific duration and "temporal location."[158] Varela clarifies this concept:

> "The correlate or intentional focus of temporal consciousness is the temporal object-event. Time never appears detached from temporal object-events; indeed, temporal object-events are what these acts of consciousness are *about*. […] At various points in his research Husserl returns to the basic observation that what is proper to temporal objects is their double aspect of *duration and unity*. Duration is correlative to the intentional direction: I am walking by *this* house, *that* bird flew from here to there. These are actual durations and refer to the object having a location in time. Unity is correlative to the individuality of the object-events in question, to the extent that they stand out as distinct wholes against the background of other events. Thus a temporal object-event is a complete act that covers a certain span *T*. However, the entire act is a continuous process in the course of which *moments of nowness are articulated*, not as a finished unity but in a succession."[159]

---

[157] Here, "intentional" is to be interpreted in the phenomenological sense of meaning the "consciousness-of" something.

[158] Francisco Varela, "The Specious Present," p. 268; c.f. also John Barnett Brough's, "Translator's Introduction" to Edmund Husserl, *On the Phenomenology of the Consciousness of Internal Time*, pp. XXV-XXVI

[159] Francisco Varela, "The Specious Present," pp. 269-270

Thus, in this sense, the temporality of consciousness can be described in terms of a succession of constituted temporal object-events. Husserl describes this succession as a continuous "slippage" between perceptual moments which are each individually constituted in a three-part structure consisting of the privileged "running-off mode" of appearance in the present,[160] and a "temporal fringe" of the just-passed ("retention") and the indefinite to-come ("protention").[161] He argues that each individual moment of perception must be constituted in this tripartite structure, because, if one's awareness was strictly restricted to the immediate present, one would have no experience of time or temporality at all: "We could not speak of a temporal succession of tones if […] what is earlier would have vanished without a trace and only what is momentarily sensed would be given to our apprehension."[162] Therefore, for Husserl, now-perception is constituted of a "triple-intentionality" directed not only towards awareness of the present but also towards the immediate past and future; every present pure lived experience is also a retention of past one and a protention towards a future one.[163] Barnett Brough, translator of Husserl's *On the Phenomenology of the Consciousness of Internal Time* (*Zur Phänomenologie des Inneren Zeitbewussteeins*) explicates Husserl's position:

---

[160] Edmund Husserl, *On the Phenomenology of the Consciousness of Internal Time*, pp. 49, 375
[161] Francisco Varela, "The Specious Present," pp. 278, 296
[162] Edmund Husserl, *Zur Phänomenologie des Inneren Zeitbewussteeins*, p. 397; translated in Francisco Varela, "The Specious Present," p. 278
[163] Barnett Brough, "Translator's Introduction" to Edmund Husserl, *On the Phenomenology of the Consciousness of Internal Time*, pp. XXXVIII; Jean-Michel Roy, et al., "Beyond the Gap," p. 34

> "It should be clear that Husserl would agree with William James, whose work on time he greatly appreciated, when James wrote that 'the practically cognized present is no knife-edge, but a saddle-back…'. The immediately experienced present is extended; it forms what James called the 'specious present' and what Hasserl at one point refers to as the 'rough' now."[164]

Later, he continues:

> "Husserl holds that 'each perceptual phase has intentional reference to an extended section of the temporal object and not merely to a now-point.' […] The now-perception is not an independent act: it is simply a dependent moment of the threefold intentionality belonging to a perceptual phase, which itself is only a dependent part of a larger temporal whole, the extended perceptual act. But like the now that it intends, the perception of the now has a certain privileged status; it presents a phase of the object as now in the narrower sense, as there itself and now present, 'in person." It is the moment of origin, since in it one first experiences the presence of the new – a new part of the melody, a new moment of the enduring landscape, and so on. But consciousness will flow on. What was experienced in one perceptual phase as now will be perceived in the next phase as just past."[165]

Aside from his account of the tripartite structure of temporal object-events, Husserl also discusses temporal consciousness at a "deeper," phenomenologically prior, level: that of the "absolute time-constituting flow of consciousness."[166] This level of temporal consciousness is phenomenologically fundamental in that makes up the underlying temporalization of consciousness that allows for the constitution of temporal-object events, but is in itself independent of the particular contents of experience. As Varela puts it:

---

[164] Barnett Brough, "Translator's Introduction" to Edmund Husserl, *On the Phenomenology of the Consciousness of Internal Time*, pp. XXVIII

[165] Barnett Brough, "Translator's Introduction" to Edmund Husserl, *On the Phenomenology of the Consciousness of Internal Time*, pp. XXXVIII-XXXIX

[166] Edmund Husserl, *On the Phenomenology of the Consciousness of Internal Time*, pp. 77-79, 382

> "It is against this background of the flow of experiencing that the duration of object-events and the experience of temporality is constituted. This underlying flow raises then a new apparent paradox: it can be detached from the temporal object-events but at the same time it appears inseparable from them, since without object-events there is no flow. The nature of this immanence is taken up again by Husserl in the following (remarkable) passage which summarizes his previous analysis: 'I may express the situation thus: What is perceived, what manifests [*selbstgegeben ist*] as an individual object, is always given in unity [*Einbeit*] with an absolutely non-manifest domain [*nicht gegeben Mannigfaltigkeit*].'"[167]

Varela says that this concept of a time-constituting flow of consciousness introduces into the analysis of temporality the *aporia* of the coexistenace of permanence and change in that it puts consciousness in the position of being "a constant background against which distinct temporal acts and events appear."[168] However, by putting to use the neurophenomenological method, Varela aims to reconceptualize, clarify, and thereby disentangle this and other seeming paradoxes associated with temporality by refining and supplementing Husserl's phenomenological analysis with a neurodynamic account of the temporality of experience.

Varela's method involves using scientific research, dynamical systems theory, and the enactive approach to cognition to demonstrate the structural coherence between data and hypotheses regarding human neurodynamics and Husserl's phenomenological account of time consciousness, thereby (a) allowing for certain elements of Husserl's account which appear paradoxical or unclear from a purely phenomenological perspective to be reconceptualized

---

[167] Francisco Varela, "The Specious Present," p. 290
[168] *Ibid*.

coherently within this new framework, and (b) providing phenomenological support for or clarification of certain theories in neurodynamics. Using this method, Varela gives a neurophenomenological account of each of the central concepts in Husserl's account of the temporality of consciousness: the unity of and duration of temporally present object-events, retention, protention, and the paradoxical "absolute time-constituting flow of consciousness" which underlies all time consciousness. Briefly, his arguments can be summarized as follows:

1. Both the unity and duration of temporal object-events in the present have structural analogues in the dynamics of neural cell assemblies. The processes by which a number of transiently synchronized (i.e. "phase locked") aggregates of neural activation (i.e. "neuronal assemblies") distributed throughout the brain are progressively integrated through neural convergence in associational, multimodal, and higher-level cortices offers a neurodynamic explanation of both the unity and distinct durations of temporal object-events. First, Varela hypothesizes that it is the synchronous coupling of phase-locked neuronal assemblies which allows for the unitary nature of temporal object-events. Secondly, he demonstrates that the distinct durations of and "flowing" relationships between individual experiential moments are structurally isomorphic to the recursive arising (i.e. "integration") and subsiding (i.e. "relaxation") of phase coherence in large scale neural orchestrations. Individual cognitive moments arise individually in a fluid manner through a recurrent process of neural synchronization, disordering (i.e. phase incoherence), and the emergence of a new state through the arising of an altered pattern of neural synchronization (i.e. "bifurcation" or "phase transition"). Thus, Varela proposes that the dynamics of the recurrent integration-relaxation process of widely distributed neural ensembles are the "strict correlates of present time consciousness," a hypothesis he defends further through a neurodynamic explanation of the "saddle-like" nature of the tripartite constitution of temporal object-events.[169]

2. Husserl's paradoxical account of the "just-passed" (i.e. "retention") as being constituted in the present can be accounted for neurodynamically by the fact that each novel bifurcation from a prior state in a dynamical system, including the distributed neural

[169] Francisco Varela, "The Specious Present," pp. 272- 277

system described above, is dependent both on the prior conditions of the system and various constraints on its developmental trajectory. Because the state of the system at any given time is dependent on its prior state, each emergence from the system "is still present in its successor" as if the system's point of origin "had an active residue" (i.e. "hysteresis"). This "active residue" can be thought of as being structurally analogous to Husserl's concept of retention as an "appended remnant" of the past within the present. "The trajectories of this dynamic, then, enfold both the current arising and its sources of origin in one synthetic whole as they appear phenomenally. [170]

3. An enactive-neurodynamical approach to protention can clarify and supplement Husserl's phenomelogical description, which is generally lacking. Based on such an account of protention, Varela argues that it should not be thought of as having a structural symmetry to retention, as Husserl seems to imply with his minimal analysis of the subject. Rather, he argues that protention is an indeterminate "open" expectation which involves "a readiness or dispositional tendency for action" which entails "an expectation about the way things in general will turn out" which is, further, suffused with affect and "emotional tone."[171] Protention thus functions within a dynamical neural system by introducing exogenous global variables which "sculpt" the dynamical landscape of the system, thereby influencing the dynamics of its flow towards various potential states (i.e. its "trajectory in phase space").[172]

4. The "absolute time-constituting flow of consciousness" and the paradox of its relationship to constituted temporal object events can be explained neurodynamically with recourse to two principles of dynamic systems. First, the manner in which "nowness," and indeed temporality in general, emerge from the pre-reflective or "presemantic" level of the "absolute flow of consciousness" is mirrored by the natural emergence, without recourse to representation, of moment-to-moment cognitive acts from the distributed neurodynamic system described in Varela's first argument above. Second, Varela argues that what he describes as "the mutual bootstrap between the phase space landscape and the specific trajectories that move in it" can account for the seeming paradox of the apparent foundational constancy of the flow of consciousness and its role in the constitution of individual temporal object-events. Despite the fact that the dynamical landscape and the trajectories that move in it are "intrinsically distinct," they form an "inseparable unity" in that the phase space landscape of a system defines the possibility and probability of particular dynamical trajectories, while particular

---

[170] Francisco Varela, "The Specious Present," pp. 283-284
[171] Francisco Varela, "The Specious Present," pp. 295, 299-300
[172] Francisco Varela, "The Specious Present," p. 301

dynamical trajectories alter the landscape of the phase space by causing environmental interactions which alter the parameters of the system.[173] Thus, the "mutual bootstrap" structure of widely distributed neurodynamic systems can be applied to and explain the *prima facie* paradoxical concept that the absolute time-constituting flow of consciousness "can be detached from" temporal object-events but at the same time "appears inseparable from them."[174] The temporal flow of consciousness is experienced as being both fundamentally independent of and inextricably intertwined with temporal object-events because the moment-to-moment cognitions which emerge from neurodynamic systems are in the same way simultaneously independent of and fundamentally intertwined with the temporal flow of the dynamics of that system. As Varela puts it, "The walker and the path are intrinsically linked."[175]

Thus, by demonstrating that phenomenological and neurocognitive analyses can (a) be demonstrated to have dynamic morpohological congruencies, and (b) mutually refine one another by filling in or clarifying "blind spots" or ambiguities in one another's accounts, Varela's analysis of time consciousness provides strong justification for the legitimacy of the neurophenomenological approach to naturalizing phenomenology.

However, the method of bringing together evidence from independent modes of analysis described above, while serving as Varela's "acid test" for the viability of the neurophenomenological project, is not the only methodology espoused within its framework. Another method used within the neurophenomenology approach is to directly incorporate phenomenological description into cognitive science research by training subjects in phenomenological methods, thereby allowing their first-person data to guide the interpretation

---

[173] Francisco Varela, "The Specious Present," p. 302
[174] Francisco Varela, "The Specious Present," p. 290
[175] Francisco Varela, "The Specious Present," p. 302

of neurocognitive data. On this approach, independently arrived at phenomenological and neurocognitive analyses are not analyzed conjunctively *ex post facto*; rather, phenomenological methods are directly incorporated into the research methods of cognitive neuroscience.

A representative example of this approach is a 2002 experiment by Antoine Lutz, Jean-Philippe Lachaux, Jacques Martinerie, and Francisco Varela in which subjects either self-induced or were guided with open-ended questions through a process akin to phenomenological reduction, thereby allowing the neurodynamical data recorded during a perceptual task to be analyzed in terms of their own phenomenologically derived categories.[176] The experiment consisted of two general phases, each made up of multiple trials. In the first phase, subjects became familiar with a well known illusory depth perception task:

> "The task began when the subjects fixed a dot-pattern containing no depth information. After an auditory signal, the subjects were asked to fuse two little squares at the bottom of the screen and to remain in this eye position for seven seconds. At the end of this preparation period, the random-dot pattern was changed to a slightly different random-dot pattern with binocular disparities (autostereogram). Subjects were readily able to see a 3D illusory geometric shape (depth illusion). They were instructed to press a button with their right hand as soon as the shape had completely emerged. This ended the trial, after which the subjects gave a brief verbal report of their experience."[177]

In the first phase, subjects underwent this task repeatedly "until they found their own categories to describe the phenomenological context in which they performed it and the

---

[176] Antoine Lutz, et al., "Guiding the Study of Brain Dynamics by Using First-Person Data," pp. 1586-1588
[177] Antoine Lutz, "Toward a Neurophenomenology as an Account of Generative Passages," p. 140

strategies they used to carry it out."[178] In the second phase of the study, subjects performed the task 200 to 350 times while their response times and electroencephalographic (EEG) activity were recorded. The data from this second phase was clustered for statistical analysis by classifying the verbal reports at the end of each trial in terms of the "phenomenal invariants (or categories) found and stabilized during the training session."[179] These categories were based on the subjects' subjective sense of their degree of preparation and the quality of their perception. They were classified as follows:

> **Steady readiness (SR):** subjects reported that they were 'ready', 'present', 'here', or 'well-prepared' when the image appeared on the screen and that they responded 'immediately' and 'decidedly'.
>
> **Fragmented readiness (FR):** subjects reported that they had made a voluntary effort to be ready, but were prepared either less 'sharply' (due to a momentary 'tiredness') or less 'focally' (due to small 'distractions', 'inner speech', or 'discursive thoughts').
>
> **Unreadiness (SU):** subjects reported that they were unprepared and that they saw the 3D image only because their eyes were correctly positioned. They were surprised by it and reported that they were 'interrupted' by the image in the middle of an unrelated thought.[180]

Statistical analysis revealed a number of significant differences between the phenomenological clusters in both the behavioral and neural data:

1. Reaction times were significantly longer when subjects reported being less prepared.

---

[178] Antoine Lutz, et al., "Guiding the Study of Brain Dynamics by Using First-Person Data," p. 1586
[179] Antoine Lutz, "Toward a Neurophenomenology as an Account of Generative Passages," p. 140
[180] Summaries quoted from Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind*, p. 36; c.f. Antoine Lutz, et al., "Guiding the Study of Brain Dynamics by Using First-Person Data," p. 1588

2. Local (i.e. additive single electrode oscillatory power) and long-range (i.e. between two electrodes) EEG signal phase synchrony "occurred at different frequencies before the stimulus depending on the degree of readiness reported by the subjects."[181]

3. "Trials in which the subjects reported a stable state of preparation were marked by a sustained and self-induced pattern of both local and global synchrony over the frontal electrodes." There was a consistent shift towards the gamma band of frequencies in the "steady readiness" cluster. "These results suggest that the deployment of attention during the preparation strategy was characterized by an enhancement of the fast rhythms in combination with an attenuation of the slow rhythms."[182]

4. Evoked oscillatory responses to the perception of the 3D illusion increased with the reported degree of preparation.

5. The topography, frequency span, and time course of the induced responses differed between different phenomenological clusters.
6. Despite wide variance across subjects in topography, frequency, and time course of synchrony patterns, dynamic neural signatures for each phenomenological category were generally stable for each individual subject over a period of several days. [183]

Thus, Lutz and colleagues' neurophenomenological experimental methodology was able to successfully combine the phenomenological analyses of experience with behavioral and neural measures in order to reveal the neurodynamic and behavioral correlates of distinct phenomenologically disclosed experiential categories. Nevertheless, their experiment represents

---

[181] Antoine Lutz, et al., "Guiding the Study of Brain Dynamics by Using First-Person Data," p. 1588
[182] *Ibid.*
[183] Antoine Lutz, et al., "Guiding the Study of Brain Dynamics by Using First-Person Data," p. 1589

only the first step in the development of a rigorous and comprehensive neurophenomenological program:

> "In our study, mutual constraints were tested and instantiated in the implementation of [phenomenological clusters] to guide the analyses of neurophysiological data. However, our study is clearly only a first step; further refinement is needed to capture the potential richness of even this simple perceptual experience. Thus, this study should be considered as an initial basic example in the context of the wider scope of this approach. The more ambitious goal is to find a rigorous way to integrate a more sustained and careful examination of subjective experience, including its temporal structure."[184]

Thus, while both of the neurophenomenological studies we have discussed here have provided unique contributions to our knowledge of the processes associated with and underlying subjectivity, in many ways they both function primarily as "proofs of concept" for the possibility of neurophenomenological research. Ideally, in the future, neurophenomenological methods, or, indeed, any of the aforementioned models of naturalized phenomenology, will allow us to gain a comprehensive understanding of the essential structures of subjectivity in the full complexity of their relationships with neurodynamics, the body, and the environment.

In the following section, we will discuss the suggestion made by various theorists associated with naturalized phenomenology that various practices for refining awareness, including Buddhist meditation, may be of use in such projects by providing methods for the improvement of phenomenological observations of subjective experience.

---

[184] Antoine Lutz, et al., "Guiding the Study of Brain Dynamics by Using First-Person Data," p. 1590

2.2 BUDDHIST MEDITATION, PHENOMENOLOGY, AND COGNITIVE SCIENCE

One line of thought that has been consistently interwoven with the development of frameworks for incorporating first-person methods into the cognitive sciences, especially those related to neurophenomenology and the enactive approach, is one which promotes the refinement of awareness through various meditative exercises and practices, including, perhaps most prominently, Buddhist meditative practices. The focus on such methods within this area of research emerges from the emphasis placed by some theorists on taking seriously the pragmatics of disciplined first-person research methods in order to ensure maximal rigor and depth in the observation and analysis of experience.[185] While these theorists note that a number of "spiritual" or "wisdom" traditions have developed methods for examining "the structure of experience by means of disciplined methods of the greatest sophistication," they have consistently placed a specific emphasis on Buddhist meditative techniques because they feel that "this tradition has kept alive the most accurate techniques of the act of becoming aware [they] are seeking."[186] The following sections will discuss, first, the role which Buddhist meditative techniques have played throughout the development of the neurophenomenological

[185]c.f. Natalie Depraz, et al., "The Gesture of Awareness"
[186] Natalie Depraz, et al., *On Becoming Aware*, pp. 205-206

approach and, second, the subsequent arising and development of the concept of a specific methodology of "contemplative science."

2.2.1 BUDDHIST MEDITATION IN NEUROPHENOMENOLOGY AND COGNITIVE NEUROSCIENCE

Discussions of the potential relevance of Buddhist meditative techniques to the development of rigorous first-person phenomenological methods have formed a central aspect of the methodological considerations surrounding the enactive approach to cognition and neurophenomenology since their beginnings. From Varela, Thompson, and Rosch's first introduction of the enactive approach into the cognitive sciences in 1991, through the development of neurophenomenology, and continuing into the present age of research in the area, both the concepts surrounding Buddhist meditative techniques and Buddhist meditative practices themselves have played a critical role in the development of the enactive-neurophenomenological approach. In a 2008 paper on the past and potential future congruencies and interactions between neurophenomenology and Buddhist meditative traditions, Evan Thompson explains the reasoning behind this continued neurophenomenological interest in Buddhist meditation:

> "The working hypothesis of neurophenomenology is that phenomenological accounts of the structure of human experience and scientific accounts of cognitive processes can be mutually informative and enriching. […] The reason the Buddhist tradition is particularly relevant in this context is that its cornerstone is contemplative mental training and critical phenomenological and

> philosophical analysis of the mind based on such training. Thus, neurophenomenology intersects with religion not so much as an object of scientific study […] but rather as a repository of contemplative and phenomenological expertise. According to neurophenomenology, such expertise could play an active and creative role in the scientific investigation of consciousness."[187]

Thus, for Thompson, Buddhist meditative techniques represent a set of first-person approaches to the observation and analysis of experience which are of equal value to the neurophenomenological enterprise as Husserlian phenomenology. In fact, although Thompson has since retracted this early analysis of Husserl's phenomenology, in their influential 1991 introduction to the enactive approach and what would become neurophenomenology, *The Embodied Mind*, Varela, Thompson, and Rosch argue that Buddhist meditative practices and philosophy would actually be a more promising phenomenological partner for the cognitive sciences than would Husserlian phenomenology. [188]

In *The Embodied Mind*, Varela, Thompson, and Rosch argue that the meditative process, ubiquitous throughout nearly all Buddhist meditative traditions, of developing insight (Pali *vipassanā*, Skt *vipaśyanā*) by calming the mind (Pali *samatha*, Skt *śamatha*) through the practice of mindfulness (Pali *sati*, Skt *smṛti*) provides an ideal framework for the examination and analysis of experience.[189] Within this framework, the process of calming the mind allows it to be brought into a state in which it can "be present with itself long enough to gain insight into its own

---

[187] Evan Thompson, "Neurophenomenology and Contemplative Experience," p. 227
[188] c.f. Evan Thompson, *Mind in Life*, pp. 413 – 416, 18-23
[189] Francisco Varela, et al., *The Embodied Mind*, pp. 22-24

nature and functioning."[190] For Varela, Thompson, and Rosch, this method of mental refinement is of particular value because it emphasizes maintaining a continued mental stance of non-abstracted awareness in which habitual dissociations between awareness and experience, and the mind and the body, are continually lessened:

> "[T]he first great discovery of mindfulness meditation tends to be not some encompassing insight into the nature of mind but the piercing realization of just how disconnected humans normally are from their very experience. Even the simplest or most pleasurable of daily activities […] all pass rapidly in a blur of abstract commentary as the mind hastens to its next mental occupation. The meditator now discovers that the abstract attitude which Heidegger and Merleau-Ponty ascribe to science and philosophy is actually the attitude of everyday life when one is not mindful. This abstract attitude is the spacesuit, the padding of habits and preconceptions, the armor with which one habitually distances oneself from one's experience. […] As the meditator again and again interrupts the flow of discursive thought and returns to be present with his breath or daily activity, there is a gradual taming of the mind's restlessness. […] Eventually meditators report periods of a more panoramic perspective. This is called awareness."[191]

On Varela, Thompson, and Rosch's view, Buddhist mindfulness meditation represents an ideal pragmatic discipline for ensuring the rigorous observation and analysis of experience in that it transforms reflection on experience from an abstract, "theoretically confined" and "preconceptually entrapped" effort at "disembodied" reflection into an "embodied, open-ended" reflection on experience as it occurs.[192] They argue that Western philosophy since Descartes has fallen into the philosophical impasse entailed by the ontological problem of mind-

---

[190] Francisco Varela, et al., *The Embodied Mind*, p. 24
[191] Francisco Varela, et al., *The Embodied Mind*, pp. 25-26
[192] Francisco Varela, et al., *The Embodied Mind*, p. 27

body dualism, and *a fortiori* the "hard problem" of consciousness and the explanatory gap problem, due to its continued recourse to a philosophical praxis based on "disembodied," experientially disconnected theoretical reflection. However, on their view, mindfulness meditation offers a method of experiential reflection which avoids these pitfalls:

> "If the results of mindfulness/awareness practice are to bring one closer to one's ordinary experience rather than further from it, what can be the role of reflection? […] This question brings us to the methodological heart of the interaction between mindfulness/awareness meditation, phenomenology, and cognitive science. What we are suggesting is a change in the nature of reflection from an abstract, disembodied activity to an embodied (mindful), open-ended reflection. […] What this formulation intends to convey is that reflection is not just *on* experience, but reflection *is* a form of experience itself – and that reflective form of experience can be performed with mindfulness/ awareness. When reflection is done in that way, it can cut the chain of habitual thought patterns and preconceptions such that it can be an open-ended reflection, open to possibilities other than those contained in one's current representations of the life space. We call this form of reflection mindful, open-ended reflection."[193]

It is clear from this analysis why mindfulness meditation might be seen as an ideal tool for the observation and analysis of experience from the perspective of an enactivist approach to phenomenologically informed cognitive science. If (a) cognition is seen as a process which emerges from dynamic interactions between the brain, body, and environment, and (b) the goal of the enactive-neurophenomenological endeavor is to incorporate rigorous phenomenological descriptions into the development of theoretical accounts of cognition, then it is crucial for such an endeavor to employ a phenomenological method which faithfully describes experience in its

---

[193] Francisco Varela, et al., *The Embodied Mind*, p. 27

full intersystemic complexity. Mindfulness meditation fills this role well by providing a mental stance which places the mind and the body on equal non-oppositional experiential footing.

Furthermore, the de-abstracted or pre-theoretical mode of experience cultivated in mindfulness meditation, whereby one enhances one's experiential awareness by suspending habitual mental acts of interpretative abstraction, is of crucial value to any method of disciplined experiential analysis. As was stressed above in the sections regarding the term "phenomenology" (section 2.11) and theories and methods of intersubjective validation (section 2.1.2.3), it is of critical importance for the accurate description of experience that efforts are made to rigorously observe and analyze experience at the level of intuitive, pre-symbolic, and pre-categorical awareness, thereby allowing experiential phenomena to be communicated in their "own language." If one's method of experiential observation fails to operate on this level, both one's analysis and one's experience itself are at risk of manifesting in the form of the "immanent categories of language" or pre-established explanatory categories "that ultimately derive from folk psychology or from some obscure, anonymous, and non-rigorous form of phenomenology."[194] By explicitly redirecting one's attention from reactive conceptualizations of experience to the continuously unfolding content of lived experience itself, mindfulness meditation promotes the cultivation of a mode of awareness which aims to bypass misleadingly

---

[194] Natalie Depraz, et al., *On Becoming Aware*, p. 69; Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind*, p. 26

conceptualized, categorized, or narrativized appraisals of experience. As Natalie Depraz later summarized the crucial importance of such an approach:

> "The epistemological guideline here is as follows: how can a disciplined way of categorizing on the part of the subject influence (modify, refine, renew) the empirical categories at work in the experimental protocol? Hence the strong contention underlying such an epistemological hypothesis: being aware is synonymous with *becoming* aware. It means that consciousness is "workable" and that its abilities can be trained and cultivated, its self-understanding refined. […] This conception of consciousness is grounded in the idea that each subject is able to discover in him or herself dimensions of consciousness that he or she did not initially suspect existed there; it is also rooted in the growing conviction that we are not self-aware in an epiphenomenal way alone, as if being aware is just an additional and superficial component of our identity. […] This new understanding of the agency of the self-conscious subject and of his or her self-spontaneity is therefore not just an epistemological one, even if Francisco's goal was to find its most adequate scientific formulation. It is primarily rooted in the practice of meditation, which requires training and cultivation […]. Re-anchoring oneself in such an experiential pragmatics makes the phenomenological work as well as the scientific research more concrete in so far [as] it lays out the precise experiential basis for them."[195]

More recent discussions of the potential value of incorporating Buddhist meditation into neurophenomenological and related approaches to research on the cognitive neuroscience of subjective experience have revealed other potentially valuable avenues for research incorporating Buddhist meditation techniques. In a 2006 article on "Meditation and the Neuroscience of Consciousness," Antoine Lutz, fellow cognitive neuroscientist Richard J. Davidson, and Buddhologist John D. Dunne argue that Buddhist meditation can play a crucial

---

[195] Natalie Depraz, "Confronting Death Before Death," pp. 91-92

role in such research by providing “first-person expertise” which can be used to help identify the neural counterparts of various aspects of subjective experience. They identify three areas of research in which collaboration with experienced meditators can be of potential value: (a) identifying the physical substrate of subjectivity or the self, (b) identifying and understanding the physical principles underlying the emergence of coherent conscious states from unconscious brain processes, and (c) understanding the functional role and physiology of baseline levels of brain activity and their associated neural networks and bodily processes.[196] Notably, initial progress has already been made on all of these fronts.

First, neurocognitive analysis of the modes of experience induced by Buddhist meditation techniques which purportedly reduce or eliminate the “narrative self” while leaving a basic tacit sense of reflexive self-awareness intact may provide unique insights into the neural correlates of subjectivity and selfhood. For example, by contrasting the neural activity of meditators who have induced such meditative states with either their own, other meditators’, or non-meditors’ neural activity during a non-meditative state, “one may be able to find neural correlates of a bare subjectivity, which in turn may yield some insight into the neural correlates of the most basic type of coherent states that we call consciousness.”[197] Lutz, Davidson, and Dunne hypothesize that, by providing a practical method whereby the “narrative self” and a more basic sense of reflexive self-awareness or “ipseity” can be clearly distinguished in

---

[196] Antoine Lutz, et al., “Meditation and the Neuroscience of Consciousness,” p. 523
[197] Antoine Lutz, et al., “Meditation and the Neuroscience of Consciousness,” p. 524

experience, meditation may provide an object of neurocognitive research which can allow for the distinguishing of these two aspects of subjectivity or "selfhood" on the neurocognitive level.

Notably, in a 2007 article entitled "Attending to the Present: Mindfulness Meditation Reveals Distinct Neural Modes of Self-Reference," researchers from the University of Toronto report their success in doing just this. By comparing the neural activity of (a) subjects who had undergone an eight week training in mindfulness meditation and (b) non-meditating subjects during two tasks designed to evoke either a narrative-based self-focus or an experientially-based self-focus, researchers were able to demonstrate "a fundamental neural dissociation between two distinct forms of self-awareness that are habitually integrated but can be dissociated through attentional training": (a) " higher order self-reference characterised by neural processes supporting awareness of a self that extends across time," and, (b) "more basic momentary self-reference characterised by neural changes supporting awareness of the psychological present."[198] They argue that their results suggest that cortical areas associated with viscerosomatic processing in the insula, somatosensory cortices, and inferior parietal lobule are not only involved with monitoring one's body state, but also "support an immediate information processing network of identity, distinct from abstract and narrative representations of the self."[199]

---

[198] Norman A.S. Farb, et al., "Attending to the Present," pp. 313, 319
[199] Norman A.S. Farb, et al., "Attending to the Present," p. 319

Second, Lutz, Davidson, and Dunne suggest that "the capacity of long-term practitioners to examine, modulate, and report their experience might provide a valuable heuristic to study large-scale synchronous brain activity underlying conscious activity in the brain."[200] Due to their unique ability to spontaneously produce, consistently reproduce, and accurately identify and describe particular mental states, advanced meditators could be ideal collaborators for neurophenomenological investigations of the neurodynamic processes underyling consciousness by providing (a) strong experimental control over their subjective states, (b) protracted stability of subjective state over multiple trials, and (c) precise description and analysis of their experience. They argue, therefore, that collaboration with long-term practitioners of Buddhist meditative techniques in experimental paradigms akin to Lutz's 2003 neurophenomenological experiment on the neurodynamics of perception may yield unique insights into the neurodynamical emergence of consciousness which would not otherwise be available to the cognitive sciences.

As a potential example, Lutz, Davidson, and Dunne discuss the possible benefits of collaborating with advanced meditators on research into binocular rivalry, a perceptual phenomena in which an observer experiences a continuously alternating "perceptual switching" between the perception of two different stable images simultaneously presented to their two eyes. Because neurocognitive research on binocular rivalry allows for the dissociation

---

[200] Antoine Lutz, et al., "Meditation and the Neuroscience of Consciousness," p. 526

of the dynamically varying neural activity associated with subjective visual experience from the relatively stable low-level neural activity driven by the stimuli themselves, such research is widely thought to provide one of the most important experimental paradigms for understanding the neural correlates of subjective visual experience.[201] Interestingly, in a 2005 paper entitled "Meditation Alters Perceptual Rivalry in Tibetan Buddhist Monks," Olivia L. Carter and colleagues demonstrated that highly advanced Tibetan Buddhist meditators were able to willfully decrease the rate of "perceptual switching" induced by binocular rivalry drastically by engaging in "single-pointed" meditation. In fact, three meditators were able to maintain the stability of a single percept – either of one of the stimuli or a combination of the two distorted in depth, color, and width – for the entirety of a five minute experimental meditation session. The authors note, "These results contrast sharply with the reported observations of over 1000 meditation-naïve individuals tested previously."[202] Taking these findings in conjunction with their reasoning regarding the neurophenomenological value of meditative expertise, Lutz, Davidson, and Dunne suggest that, by gaining increased control over and a refined awareness of perceptual switching, expert meditators may be able to "refine

[201] c.f. Alva Noë and Evan Thompson, "Are There Neural Correlates of Consciousness?", pp. 7-10: "One reason that binocular rivalry is important for studies of the neural basis of visual perception is that it would seem to provide a tool for dissociating, on the one hand, neural activity that is driven, as it were, by the stimulus sitting before the eye (e.g., the butterfly, the sunburst), and the neural activity, on the other hand, that corresponds to 'subjective perception' itself, that is, to what the sub- ject experiences visually (the percept of a butterfly, the percept of a sunburst). Although the stimulus is constant, the percept changes dramatically every few seconds. The question is: which of the neural activities subserving visual perception correlates with the stimulus, and which with the percept?"
[202] Olivia L. Carter, "Meditation Alters Perceptual Rivalry in Tibetan Buddhist Monks," p. 412

their descriptions of the spontaneous flow of perceptual dominance beyond the mere categories of being conscious of one or another percept," thereby allowing for the increasingly nuanced study of the neural correlates of visual consciousness.[203]

Finally, Lutz, Davidson, and Dunne argue that, because meditation aims to "transform the baseline state of experience and to obliterate the distinction between the meditative state and the post-meditative state" by cultivating specific qualities or features of experience until they become enduring traits, the neurocognitive study of meditation may provide a unique window into the dynamics of neurobiological baselines and their transformation:

> "[G]iven the sensitivity that most contemplative traditions show to this type of issue, the search for baseline changes throughout the continuum of mental training is a general strategy that can potentially be applied to clarify mind-brain-body interactions at many explanatory levels, including brain chemical, metabolic, or electrical activity; the immune system; the cardiovascular system; and the hormonal system. […] [O]ur functional under- standing of the brain and body baselines remains largely incomplete, and given the importance played by some notion of a baseline in most meditative traditions, it is likely that our understanding will be significantly advanced by understanding those meditative practices that, above all else, aim to transform the 'baseline of the mind.'"[204]

Two areas in which Buddhist meditation has been studied in this dimension is in the context of its effects on the immune system and the so-called "default mode network" or "task-negative network" of the brain. In a 2003 study on the effects of mindfulness meditation on

---

[203] Antoine Lutz, et al., "Meditation and the Neuroscience of Consciousness," p. 526
[204] Antoine Lutz, et al., "Meditation and the Neuroscience of Consciousness," p. 527-528

brain and immune function, Richard Davidson, Jon Kabat-Zinn, and a number of colleagues demonstrated that subjects who underwent an eight week training program in mindfulness meditation showed increased activity in cortical areas associated with positive affect (i.e. left frontal lobe) and a greater antibody titers in response to an influenza vaccine compared to a control group, as well as significant decrease in self-reported anxiety. Further, they found that increase in left anterior cortical activation within the meditation group over the course of the program was correlated with the increase in antibody titers, an effect which was no observed in the control group.[205] Thus, their study represents an important initial meditation-based study on the transformation of integrated mind-brain-body emotional and immunological baselines.

Further, in a 2012 study directly focused on the effects of mindfulness meditation on baseline brain states, Véronique A. Taylor and colleagues found evidence suggesting that mindfulness meditation drastically alters the functional connectivity of the brain's "default mode" or "task-negative" network, a network of cortical areas – thought to be involved with mind-wandering or pre-stimulus preparation – which are activated when the brain is in an idle, resting, or "off-line" state.[206] Using an fMRI based analysis of functional connectivity in the brain, Taylor and colleagues found that, compared to beginners, experienced meditators had (a)

---

[205] Richard J. Davidson, et al. "Alterations in Brain and Immune Function Produced by Mindfulness Meditation"

[206] Véronique A. Taylor, et al., "Impact of Meditation Training on the Default Mode Network During a Restful State"; c.f. Marcus E. Raichle, "The Brain's Dark Energy"; Malia F. Mason, et al. "Wandering Minds"; and Sam J. Gilbert, et al. "Comment on 'Wondering Minds'"

decreased functional connectivity between default mode network regions associated with self-referential processing and emotional appraisal during such self-referential processing (i.e. dorso-medial and ventro-medial prefrontal cortex), and (b) increased functional connectivity between regions whose connectivity may be involved in proper emotional functioning or stability and "conscious awareness of the present moment"(i.e. dorso-medial prefrontal cortex and right inferior parietal lobule; right inferior parietal lobule, left inferior parietal lobule, and precuneus). Further, they found that decrease in functional connectivity between the dorso-medial and ventro-medial prefrontal cortex was directly correlated with the number of hours subjects had spent meditating. Thus, they conclude that "mindfulness training leads to changes in the functional dynamics of the default mode network that extend beyond a state of meditation *per se*,"[207] thereby demonstrating the role which research involving Buddhist meditation can play in understanding the dynamics, both long term and short, of the baseline activity of the brain.

In his 2008 article on "Neurophenomenology and Contemplative Experience," Evan Thompson expands on Lutz, Davidson, and Dunne's account of the neurophenomenological value of meditative training in three ways. First, he argues that, because "contemplative training cultivates a capacity for sustained, attentive awareness of the moment-to-moment flux

---

[207] A. Taylor, et al., "Impact of Meditation Training on the Default Mode Network During a Restful State," p. 9

of experience […] phenomenologically precise first-person reports produced through mental training can provide important information about endogenous and externally uncontrollable fluctuations of moment-to-moment experience."[208] Thus, the sustained awareness of the temporal flow of experience which meditative practice aims to develop could be of crucial importance to the neurophenomenological study of the dynamically intertwined relationships between the mind, body, and environment. Second, Thompson suggests that, if meditators are able to develop states of "non-reflective and open awareness" in which they do not explicitly attend to any to any particular object or content, as many Buddhist texts suggest, then the neurocognitive analysis of such states would almost necessarily reveal important information about the neural correlates of the subjective aspects of consciousness. Third, meditators' abilities to spontaneously generate, sustain, and precisely describe specific sorts of mental states might provide a "route into studying the causal efficacy of mental processes -- how mental processes may modify the structure and dynamics of the brain and body."[209] From a neurodynamical perspective, neurocognitive analysis of the generation of meditative states might help to uncover the specific processes which engender the global parameter changes in distributed neural systems which lead to large scale shifts in brain activity from one coherent global pattern to another.

---

[208] Evan Thompson, "Neurophenomenology and Contemplative Experience," pp. 230-231
[209] Evan Thompson, "Neurophenomenology and Contemplative Experience," p. 231

In conclusion, we might summarize these findings and suggestions by saying that, while neurophenomenological and other neurocognitive research approaches' incorporations of Buddhist meditative practices have shown promise in their initial manifestations, we are still very far from taking full advantage of the vast scientific potential of these techniques. As we have discussed, neurocognitive research on Buddhist meditation has the potential to aide in the uncovering of crucial insights in areas of research as diverse as experience and perception, subjectivity and selfhood, consciousness, neurophysiological baseline states, dynamical mind-brain-body interactions, and the neurodynamics of mental causation. In the future, we can only hope that the continued collaboration between cognitive scientists, neuroscientists, phenomenologists, and meditators can continue to pave the way towards comprehensive and multifaceted understandings of these complex objects of study.

2.2.2 CONTEMPLATIVE SCIENCE

It is from a common ground that the discussions, theories, and research which we have just explored and the concept of a "contemplative science" have emerged. The roots of contemplative science as a concept and a method can be seen as beginning with the development of the Mind & Life Institute and its biannual dialogues between the 14th Dalai Lama, Tenzin Gyatso, modern scientists, Western philosophers, and experts in Buddhism regarding intersections between Buddhism and modern science, especially with regards to the mind and brain. This series of conferences began in 1987 when the Dalai Lama requested that

Francisco Varela assemble a number of scientists working in the field of the mind and life sciences to meet with him at his residence outside Dharamsala to discuss convergences between Buddhism and science.[210] It was with this meeting that the Mind and Life Institute, co-founded by Varela and the Dalai Lama's student, Adam Engle, would be created, and the central forum where the thought which would lead to the development of contemplative science would be born.

Already at this first meeting, nearly five years before the publication of *The Embodied Mind*, Eleanor Rosch and Francisco Varela spoke with the Dalai Lama explicitly of the potential role which Buddhist meditation could play in the cognitive sciences, and how Buddhist meditative practices might allow for a type of rigorous observation of experience which would overcome the pitfalls of the introspectionist movement in Western psychology.[211] In this early – and perhaps, in retrospect, prophetic – discussion of Buddhism and cognitive psychology, Rosch states:

> "I would like to indicate some issues that might spark a discussion of the relation between cognitive psychology and Buddhism. First there is the general issue of methodology. This raises the question of the role of meditation in connection with acquiring knowledge of one's own mind. […] I am particular interested in what Western psychology might incorporate form Buuddhism so that psychology can be about real minds rather than hypothetical pictures of minds. […] [I]n present-day psychology, as in behaviorism, introspective knowledge of one's own mind is not admissible evidence in studying the mind. In a sense this

---

[210] Jeremy W. Hayward & Francisco J. Varela, *Gentle Bridges*, p. ix-x
[211] Jeremy W. Hayward & Francisco J. Varela, *Gentle Bridges*, pp. 87-88, 107

> shows wisdom. Left to one's own top-down processing, one will see only what one's desires and preconceptions lead one to see. So something akin to meditation and to mindfulness and awareness in daily life is needed, some method for taming and training the mind so that it can be an instrument of knowledge about itself."[212]

While in future years, the Mind and Life conferences would come to cover a wide range of topics, from compassion, altruism, and ethics to physics, cosmology, and quantum mechanics, it was precisely this concept, training the mind to become an instrument of knowledge about itself, and the question of the role which such an "instrument" could play in the sciences of the mind, which the conferences would continually return. In a closing statement at the second Mind and Life conference, which focused on interfaces between Buddhism and Neuroscience, the Dalai Lama concludes by speaking of the potential value of a collaborative effort which would be mutually informative to the Buddhist tradition and scientists alike:

> "Two years ago we had the first Mind and Life dialogue. We have then and now been experimenting with different possible approaches and possible grounds for future dialogues. […] At these meetings, points are raised which open new possibilities for pursuing more in-depth research, credible research with precision instruments. With experimental investigation of some of these points, I think we might obtain better evidence and a deeper understanding. The subjects for such research must be not merely Buddhist scholars but rather practitioners who have some contemplative experience. […]I think then we might get a clearer picture, for the scientists as well. Experiment on capable practitioners to analyze their mental states and brain functions—I think maybe that could yield interesting results. Perhaps it could also lead to more questions being raised as well as some being answered. I think that's the path of progress, isn't it?"[213]

---

212 Jeremy W. Hayward & Francisco J. Varela, *Gentle Bridges*, p. 107
213 Zara Houshmand, et al. (eds.), *Consciousness at the Crossroads*, p. 150

Already here, we see the seeds of what would grow to become "contemplative science." Indeed, in a concluding essay elucidating a number of the topics covered by the Dalai Lama throughout this conference, one finds B. Alan Wallace, who had functioned as one of the translators at both of the first two Mind and Life conferences, already developing the basic tenets of what would become his comprehensive presentation of contemplative science over the following ten years.

As alluded briefly in the introduction, B. Alan Wallace has continuously and vociferously argued that science has failed to give an adequate account of consciousness due to its "dogmatic" commitment to an empirically unjustified ontology of materialist monism,[214] and that this situation can be best remedied by the incorporation of meditative practices into the methodological framework of the psychological sciences.[215] One finds perhaps Wallace's earliest formulations of these arguments in his concluding exposition of the ideas discussed at the second Mind and Life Conference. Within the context of a general discussion of distinctions between Buddhist dualism and modern science influenced physicalist ontologies of mind, Wallace states:

---

214 c.f. B. Alan Wallace, *The Taboo of Subjectivity*, specifically Part I, "The Ideology of Scientific Materialism", Chapter 6, "The Mind in Scientific Materialism", and Chapter 7, "Confusing Scientific Materialism with Science"

215 B. Alan Wallace, "Training the Attention and Exploring Consciousness in Tibetan Buddhism"; *Towards a Science of Consciousness III* p. 441-442; c.f. also "A Science of Consciousness: Buddhism (1), the Modern West (0)"

> "[F]or the first three hundred years following the Scientific Revolution, there was no science of the mind in the West, and for the first hundred years in the development of psychology, the nature, origins, and causal efficacy of consciousness were widely ignored, with the brief exception of a few introspectionists such as William James. As James commented, those phenomena to which we attend closely become real for us, and those we disregard are reduced to the status of imaginary, illusory appearances, equivalent finally to nothing at all. While the brain has become very real for scientists observing the objective, physical correlates of mental activity, with no comparable development of sophisticated techniques for exploring mental phenomena firsthand, such subjective phenomena as mental imagery, beliefs, emotions, and consciousness itself have been widely regarded as mere illusory epiphenomena of the brain."[216]

Wallace goes on to give arguments, later to be repeated in his full treatments of contemplative science in his books *Contemplative Science* and *The Taboo of Subjecitivity*, for cognitive science's inability to properly account for consciousness due to its purported ontological commitments or biases. As it is these contentions which have continually formed the bedrock of Wallace's argument for the necessity of a contemplative science, we will quote them here at length:

> "Does modern cognitive science know enough about the brain and mind to safely conclude that the hypothesis of a nonphysical mind is useless? When asked what percentage of the functioning of the brain we presently understand, neuroscientist Robert Livingston replies, "Half of one percent," and Lewis Judd concurs that "we have barely scratched the surface." Nevertheless, one may still hold to a physicalist view of the mind on the grounds that there is no scientific evidence for the existence of any nonphysical phenomena whatsoever, so the hypothesis of a nonphysical mind should not be entertained even for a moment. This would be a very cogent conclusion if science had developed instruments for detecting the presence of non-physical phenomena and those instruments

[216] Zara Houshmand, et al. (eds.), *Consciousness at the Crossroads*, p. 163

> yielded negative results. However, to the best of my knowledge, no such instruments have ever been developed. […] When it comes to the presence or absence of consciousness in unborn human fetuses and in other animals there is no scientific consensus for the simple reason that there is no scientific means of detecting the presence or absence of consciousness in anything whatsoever. This accounts for the current lack of scientific knowledge concerning the nature, origins, and causal efficacy of consciousness."[217]

In contraposition, Wallace presents what he comes to view as the antidote to what he sees as cognitive science's theoretical and methodological failure, Buddhist meditation:

> "Buddhist contemplatives, on the other hand, […] have developed a wide array of introspective, contemplative methods for training the attention, probing firsthand into the nature, origins, and causal efficacy of mental events, including consciousness itself, and for transforming the mind in beneficial ways. Centuries of experience derived from Buddhist practice suggest that the mind may be far more malleable and may hold far greater potential than is now assumed by modern science."[218]

Thus, even as early as the second Mind and Life Conference in 1989, we see the emergence of fundamental tenets of B. Alan Wallace's account of the theoretical basis for contemplative science: (a) the cognitive sciences are devoted to a materialist ontology which cannot be justified by their own scientific epistemic standards, (b) the cognitive sciences have failed to provide a comprehensive account of consciousness because their ontological commitments preclude them from using a valid methodology or "instrument" for the study of the mind , and (c) the ideal methodology or "instrument" for the comprehensive study of the mental is Buddhist meditation.

---

[217] Zara Houshmand, et al. (eds.), *Consciousness at the Crossroads*, p. 165
[218] Zara Houshmand, et al. (eds.), *Consciousness at the Crossroads*, p. 163

Wallace continued to develop these concepts over roughly the next ten years before releasing his first comprehensive expression of the methods and theory of contemplative science in his book, released in the year 2000, *The Taboo of Subjectivity*, and another decade before releasing his further elaboration, *Contemplative Science.* In these books, one finds similar argumentation to that found in his earlier piece, but framed in much more critical rhetoric. In *The Taboo of Subjectivity*, Wallace variously describes adherents of the "metaphysical doctrine that underlies and structures virtually all contemporary scientific research," namely "scientific materialism," as being akin to religious dogmatists: naïve, illogical zealots who worship the "totem" of the scientific method and hide terror-stricken in the face of the "taboo" of subjectivity.[219] In a particular egregious example of this exaggerated rhetoric, Wallace states:

> "[I]f one is indoctrinated into a belief system that denies the possibility or value of introspection, this may cause one's introspective abilities to atrophy. If so, scientific materialism's assessment of introspection may well have been conceived by individuals with impaired introspective abilities; and its adoption by others may result in the atrophying of their ability to observe their own mental processes. Thus, while children normally develop the ability of introspection by the age of eight, their later indoctrination into the principles of scientific materialism may actually cause them to revert to a preadolescent state of psychological immaturity. The denial of first-person awareness of conscious states thereby becomes a self-fulfilling prophecy."[220]

---

[219] B. Alan Wallace, *The Taboo of Subjectivity*, pp. 33, 174
[220] B. Alan Wallace, *The Taboo of Subjectivity*, pp. 82-83

Even if one sets aside the Wallace's unfortunate tendency towards generalized *ad hominem* attacks, proto-psychoanalytic dismissals of the members of entire fields of research, and nearly conspiratorial hyperbole, it is difficult to take seriously his claim that dogmatic adherence to a materialist ontology has led to a "taboo of subjectivity" that has resulted in the eschewal of consciousness as a topic of research in the cognitive sciences. As philosopher Owen Flanagan notes regarding the Dalai Lama's acceptance of some of Wallace's argumentation:

> "Linking the phenomenological with the psychological and neural is a promising research strategy for understanding persons. It is, furthermore, the strategy now firmly in place. […]. I've been saying this sort of thing for over twenty years in the company of fellow analytic philosophers and scientific naturalists, and even at the start I didn't feel remotely alone. […] One thought I have is that Alan Wallace, […] has proven to be the more powerful voice in how the Dalai Lama conceives of the current state of mind science in the West. Wallace's description, and thus the Dalai Lama's description, of the situation is outdated. […] [N]owadays all good work in cognitive and affective neuroscience utilizes phenomenological reports. Work by Patricia Smith Churchland and Paul M. Churchland, Hannah and Antonio Damasio, Richie Davidson, Joseph LeDoux, Christof Koch, and frankly anyone else I can think of interested in consciousness uses the first personal and looks for brain correlates."[221]

However, even this account seems too kind. As we have seen, the question of cognitive science's ability to study phenomenal consciousness had formed a concern addressed by cognitive scientists as early as 1987, the year of the publication of Jackendoff's *Consciousness and the Computational Mind* and the first Mind and Life meeting, over a decade before the publication of *The Taboo of Subjectivity*. Further, as noted above, neuroscientists Anthony Ian

[221] Owen Flanagan, *The Bodhisattva's Brain*, pp. 82-83

Jack and Andreas Roepstorff have convincingly argued that introspective observation and personal experience inform virtually every stage of research in the cognitive sciences. As Roy, Petitot, Pachoud, and Varela argue:

> "Some phenomena falling into the field of investigation of Cognitive Science obviously have a conscious dimension that has to be accounted for, such as, for instance, attention. Even a theory of visual perception has to be a theory of what we are visually aware of as well as a theory of what is manifested to us even unconsciously. Neuropsychological observations such as hemilateral neglect or blindsight have made phenomenological data impossible to eliminate. Finally, it is arguable that even the biological level of explanation is not in fact perfectly independent, not only from a mental one, but also from a phenomenological one. It sounds on the whole more appropriate to conclude that Cognitive Science does not strictly repudiate phenomenological data either from its explananda or from its sources of information about cognitive processes, especially at the mental level."[222]

Even in the very discussions which Wallace was commenting on in his essay on the second Mind and Life Conference, neurophilosopher Patricia Churchland notes that not all neuroscientists are physicalists about minds, therefore clearly voiding any charge of dogmatism within the field: "Eccles is a contemporary neuroscientist, a Nobel laureate, who believes stoutly in this Dualistic theory. Most neuroscientists and scientists generally do not hold this view. But Eccles is not the only exception. I wanted to mention him to recognize that there are some very knowledgeable people who do hold this view."[223]

---

[222] Jean-Michel Roy, et al., "Beyond the Gap," pp. 12-13
[223] Zara Houshmand, et al. (eds.), *Consciousness at the Crossroads*, pp. 23-24

It is disconcerting, to say the least, that Wallace, who served both as a translator during this discussion and as an editor of the transcriptions of these meetings which would become the book, *Consciousness at the Crossroads*, would ignore this fact in his analysis of the cognitive sciences and neurosciences. Given these central flaws in the very theoretical basis of the kind of contemplative science promoted by Wallace -- and, unfortunately, those within his sphere of conceptual influence – it seems safe to assume that the kind of meditative-phenomenological-scientific interactions promoted by the neurophenomenologists and cognitive neuroscientists examined above represent a far superior theoretical framework for the development of a theoretically rigorous "contemplative science."

3 MEDITATION IN BUDDHIST EPISTEMOLOGY

As we have seen, various supporters of the development of first-person scientific methodologies have promoted the use of meditation, specifically of the Buddhist sort, as a method for the rigorous observation of experience. The Buddhist meditative tradition is seen as a particularly valuable interlocutor for the psychological sciences because of its uniquely

detailed explication of the psychological and epistemological dimensions of meditation.[224] The goal of the following analysis is to elucidate how meditation has been conceived of within various Buddhist traditions, especially in relation to its epistemic role in the clarification of perception, cognition, emotion, and subjectivity.[225] Such an analysis is of critical value to the enterprise of any sort of contemplative science or neurophenomenological method which employs Buddhist meditation in that it can elucidate the tradition's customary accounts of meditative practices and their outcomes, allowing them to potentially be verified and put to use within an experimental framework.

The English term "meditation" covers a wide semantic range including three distinct concepts in Buddhist thought: mindfulness (Pali *sati*, Skt *smṛti*), concentration (Pali/Skt *samādhi*), and wisdom (Pali *paññā* , Skt *prajñā*), and the many mental factors thought to accompany or form intermediate states between these three.[226] In Buddhaghosa's 5th century systematization of the Buddha's teaching, the *Visuddhimagga* ("Path of Purification"), we find listed over a range of 300 pages no less than forty different 'subjects of meditation' (Pali *kammaṭṭhāna*, Skt *karmasthana*) involving mindfulness and concentration, while another 250 pages are devoted to meditations

---

224 Georges Dreyfus & Evan Thompson, "Indian Theories of Mind", p. 3

225 For this reason, this section will focus on those meditative techniques which are thought to directly lead to general attentional, perceptual, or "introspective" enhancement. Thus, many Buddhist practices which might be generally thought of as "meditation," including visualization practices, *kōan practice,* certain devotional practices, or so-called "compassion meditation", will not be explored here.

226 Edward Conze, *Buddhist Meditation*, p. 16

related to wisdom.[227] Still, including only those types of meditation practiced within the Theravada tradition, these lists are hardly exhaustive of the types of meditation practiced throughout the various Buddhist traditions. Within the Mahāyāna and Vajrayana traditions, and indeed in various modernized forms of Buddhism, one finds a wide range of meditative theories and techniques with varying degrees of similarity to those practices described in the earliest strata of Buddhist texts.

Throughout most Buddhist traditions, meditation is seen as having both soteriological and epistemic value due to the central role it plays in the clarification, pacification, or purification of mental, perceptual, and emotional processes which inhibit salvific knowledge. Because the understanding which such mental purification gives rise to is seen by the Buddhist tradition in general to be of primary soteriological value, the epistemic value and soteriological value of related practices are often inextricably intertwined in Buddhism.[228] For our current purposes, the epistemological dimension will form our primary focus and will therefore govern the structure of our discussion, though soteriological concepts will be discussed where they are necessary for a comprehensive understanding. While meditation very well may have various values, what is of potential importance to first-person science is the possibility of meditative clarification of perceptual and cognitive content, or the bringing of typically unconscious

[227] Edward Conze, *Buddhist Meditation*, p. 14-16
[228] This point is explicated to some degree in Donald K. Swearer's "Two Types of Saving Knowledge in the Pāli Suttas"

mental processes associated with or constitutive of such mental phenomena into conscious awareness. Therefore, it is this epistemological dimension of Buddhist meditation theory which will form our primary area of concern.

While Buddhism has produced a wide range of unique meditative techniques and systems throughout its extensive and multifaceted history, here we will focus only on two traditions in particular, that attested to in Pali canon of the Theravada school and that of the early Chán 禪 school, because these two together provide a representative view of the range of epistemic views regarding Buddhist meditative techniques found throughout the various schools of Buddhism. While the meditative system provided in the literature of the Theravada school provides the basic framework and concepts presupposed by nearly all "gradualist" approaches to meditation and meditative epistemology, the subitist approach of some subschools of Chán Buddhism demonstrates the praxiological and epistemological consequences of the "sudden enlightenment" view of some Buddhist schools.

3.1 EARLY BUDDHISM

It was a common belief amongst the various Indian ascetic traditions which coexisted around the time of the Buddha that liberation could be attained through knowledge, and that

the ultimate cause of bondage to this world is ignorance or error.[229] The general idea found within the many variants of this view is that liberating knowledge can be attained through a fundamental extrasensory insight into the ultimate nature of reality. According to orthodox Buddhist thought, the mind's latent capacity for this refined or supernormal perception is obstructed by the sullying factors of passion and karma, and only when the mental connection to defiled cognitions and emotions is severed, a new cognition free from obstacles arises. Accordingly, the Buddhist tradition prescribed a number of meditative practices for the elimination of the obstacles to this direct perception of liberating knowledge. In what follows, we will explore how this general framework is explicated throughout the versions of the earliest stratum of the Buddhist canon available to us today. By doing so, we will attempt to gain a clear sense of the role meditation played in early Buddhist epistemology. Towards this end, we will begin our exposition with some preliminary discussion and clarification of how we might conceptualize early Buddhist epistemic thought in general.

3.1.1 DEBATING THE "BUDDHIST EMPIRICISM THESIS"

There has been some debate within the scholarly literature on early Buddhism as to how to characterize its epistemological thought. In his monumental 1963 work, *Early Buddhist Theory of Knowledge*, K. N. Jayatilleke, argues based on a thorough analysis of the Pāli Nikāyas that

[229] Eli Franco, "Introduction," Yogic Perception, Meditation and Altered States of Consciousness, p. 4

personal empirical verification forms the core of early Buddhist epistemology. According to Jayatilleke's analysis:

> "Perception (normal and paranormal) and inductive inference are considered the means of knowledge in the Pāli Nikāyas. The emphasis that 'knowing' (jānaṃ) must be based on 'seeing' (passaṃ) or direct perceptive experience, makes Buddhism a form of Empiricism. […] Early Buddhism should therefore be regarded not as a system of metaphysics but as a verifiable hypothesis discovered by the Buddha in the course of his 'trial and error' experimentation with different ways of life"230

Jayatilleke comes to this conclusion based on five general considerations:

a. the critique of testimonial authority (Pali *anussava,* Skt *anuśrava*) and *a priori* reasoning (Pali *takka***)** as valid means of knowledge in the Pāli Nikāyas,[231]

b. the fact that the Buddha's own pursuit of emancipatory knowledge is canonically presented as being based on empirical self-verification ,[232]

c. the centrality of sound inductive inference from sense-based or extrasensory perception in early Buddhist notions of verification,[233]

d. the repeated emphasis on verification as being personal (Pali *sāmaṃ*, Skt: ?) throughout the Pāli Nikāyas,[234] and
e. the fact that in the Pāli Nikāyas Buddhists appear to hold that even logically sound or true statements are not meaningful or constitutive of valid knowledge unless the content of the statement can be verified directly (i.e. empirically) by the speaker.[235]

---

[230] K. N. Jayatilleke, *Early Buddhist Theory of Knowledge*, pp. 463-464
[231] K. N. Jayatilleke, *Early Buddhist Theory of Knowledge*, pp. 182-204, 390-393
[232] K. N. Jayatilleke, *Early Buddhist Theory of Knowledge*, pp. 182-204, 464-466
[233] K. N. Jayatilleke, *Early Buddhist Theory of Knowledge*, pp. 457-464
[234] K. N. Jayatilleke, *Early Buddhist Theory of Knowledge*, pp. 202, 426-427
[235] K. N. Jayatilleke, *Early Buddhist Theory of Knowledge*, pp. 202, 327-332

Despite this evidence pointing towards a strictly empiricist account of early Buddhist epistemology, some later scholars have argued against this interpretation. In his 1987 work, *Rationality and Mind in Early Buddhism*, Frank J. Hoffman rejects what he calls the "Buddhist empiricism thesis" on the grounds that:

a. in the Pāli Nikāyas, "faith" or "belief" (Pali *saddhā*) in the Buddha, Buddhist doctrine, or saṅgha is at times said to precede the investigation, understanding, or the achievement of the results of any particular doctrine,[236]

b. Jayatilleke's account unjustifiably equates belief in the Buddha with believing what the Buddha says,[237]

c. Jayatilleke's account places undue emphasis on the cognitive aspects of *saddhā* at the expense of seemingly affective aspects of this concept,[238]

d. religious experience in general, including the Buddha's awakening, does not provide justification for belief in that it is predicated on what the investigator "brings with him" to the search and is neither verifiable nor falsifiable,[239]

e. supernormal faculties (Pali *abhiññā*, Skt *abhijñā*)[240] cannot be said to verify Buddhist doctrines like *kamma* (Skt karma) or rebirth because these doctrines could not be falsified by these same methods,[241]

f. neither the concept "knowledge and vision" (Pali *ñāṇadassana*) nor "verification" (Pali *sacca*) can be interpreted as being akin to the concept of "verification" in positivism or

---

[236] Frank J. Hoffman, *Rationality and Mind in Early Buddhism*, pp. 79-81
[237] Frank J. Hoffman, *Rationality and Mind in Early Buddhism*, pp. 81-82
[238] Frank J. Hoffman, *Rationality and Mind in Early Buddhism*, p. 83
[239] Frank J. Hoffman, *Rationality and Mind in Early Buddhism*, pp. 95-96, "The Buddhist Empiricism Thesis", pp. 155-158
[240] These include (i) *iddhividhā* - psychokinesis (ii) *dibbasotadhātu* - clairaudience (iii) *cetopariyañāṇa* - telephathic knowledge of various kinds (iv) *pubbenivāsānussatiñāṇa*-knowledge of past lives (v) *dibbacakkhu* – knowledge of the decease and arising of beings (vi) *āsavakkhayañāṇa* – knowledge of the destruction of the defiling impulses
[241] Frank J. Hoffman, *Rationality and Mind in Early Buddhism*, pp. 93, pp. 97-98

"logical empiricism" because the former are concerned with the truth value of utterances while the latter are concerned with propositions,[242] and

g. early Buddhism does not distinguish between the mind and the senses in its concept of "gateways" (*āyatana*) in the way that empiricism presupposes.

While adjudicating between these seemingly conflicting views is not of immediate importance to the task at hand, it may be of use to the reader in that it will clarify some of the basic concepts of early Buddhist epistemology in relation to modern thought and, as we shall see, ultimately furnish us with a more comprehensive understanding of the unique role which meditation plays within the early Buddhist epistemological system.

We can see Hoffman's objections as resting on three related distinctions: between early Buddhist doctrine and historical forms of philosophical empiricism, pragmatic knowledge and empirical knowledge, and "religious" knowledge and "scientific" knowledge. He makes it clear throughout his argumentation in *Rationality and Mind in Early Buddhism* and other related articles that his goal is to distinguish early Buddhist epistemology from "any historical strand of empiricism," including "logical empiricism (or positivism)" and, consequently, to demonstrate that "there is no basis for an Early Buddhist apologetic which favorably contrasts an empirical Early Buddhism with other religions such as Hinduism and Christianity."[243]

---

[242] Frank J. Hoffman, *Rationality and Mind in Early Buddhism*, pp. 93-95
[243] Frank J. Hoffman, *Rationality and Mind in Early Buddhism*, pp. 94-96

Hoffman's points regarding the distinctions between early Buddhist epistemology and "empiricism" as it is thought of in the context of modern Western empiricist philosophy, positivism, and philosophy of science are trenchant and important, especially given the topic at hand; however, it is important to clarify that a number of his objections (e, f, and g) only apply to the relationship between early Buddhism and those specific philosophical traditions, and do not constitute counterexamples to the more modest of Jayatilleke's points, namely that Buddhist epistemology is primarily based on inference from personal *a posteriori* experience. The fact that certain Buddhist doctrines cannot be falsified in practice by personal observation or meditative experience certainly reveals important distinctions between Buddhism and science (see section 4.1.2); however, Popperian falsifiability is not a necessary component of any experience-based epistemology. Similarly, a theory of propositions is not a necessary requirement for any experientially based epistemology, and indeed the two concepts have not even always been cohabitant in the history of Western philosophy.[244] Finally, the fact that early Buddhism does not distinguish between the senses and "the intellect" in the same way that Locke, Aquinas, or "concept empiricists" in general do does not entail that its observational approach to mental phenomena cannot rightfully be considered "empirical" in the general sense. It is important to note that even in Western philosophy, certain philosophers have held that observational knowledge of mental content should rightfully be considered *a posteriori* knowledge. Indeed,

---

[244] For example, Bertrand Russell at particular times in his career defended a strictly empiricist epistemology while denouncing the concept of the proposition.

analytic philosopher Nathan Salmon notes that fellow philosopher Noel Fleming has pointed out that facts knowable through "nonsensory introspective experience" have traditionally been considered *a posteriori* in Western philosophy, "thus declaring Descartes' *cogito a posteriori* rather than *a priori*."[245] Thus, to be clear, the fact that early Buddhist epistemology is not in accord with "empiricism" or "positivism" *qua* modern or historical Western philosophical schools associated with this term does not entail that its epistemology is not primarily grounded in inference from personal *a posteriori* experience.[246]

However, this still leaves us with the question of how to interpret early Buddhist epistemology in light of its focus on faith, religious experience, and *abhiññā*. We will begin with the concept of faith (*saddhā*) because, first, it is of primary importance in that it seems to call into

---

[245] Nathan Salmon, "How not to Become a Millian Heir," p. 169, note 13 (p. 175)

[246] It seems that Hoffman himself would accept this characterization of early Buddhist epistemology, which he seems to see as "though experiential, […] not experimental." See Frank J. Hoffman, "The Buddhist Empiricism Thesis," p. 156. It is worth noting here one potential objection that may arise in this context. One might argue that a number of central Buddhist doctrines (i.e. that of rebirth, non-self, dependant origination, or the 'momentariness' of *dhammas*) were not arrived at by *a posteriori* observation, but were rather derived from (a) common ontological assumptions within the historico-cultural milieu which Buddhism arose out of, (b) logical conclusion or inference, or (c) doctrinal systematization (c.f. Eli Franco, *Meditation and Metaphysics*). While this very well may be true, this does not change the fact that the epistemological system which was, as far as we can tell, promoted within early Buddhist doctrine was one based on personal *a posteriori* observation. While the fact that certain Buddhist doctrines may have developed based on epistemologies in conflict with this idea is interesting from the perspective of the history of Buddhism, it is not relevant to our current task, which has as its goal the understanding of Buddhist epistemology as it is characterized within Buddhist doctrine itself. It is only through this type of emic analysis that we can understand the tradition of beliefs and assumptions that have influenced those which modern Buddhists bring to the table in discussions of the mind, ontology, epistemology, *et cetera*.

question the very notion of verification in early Buddhism and, second, the concepts we will use to explicate this topic will be of use in our further discussions.

On Hoffman's own account, his objections to the view of *saddhā* promoted by Jayatilleke and supporters of the "Buddhist empiricism thesis" are not intended to promote the view "that one is encouraged in early Buddhism to have faith in the sense of 'believing on insufficient evidence,'" but rather to demonstrate that in early Buddhism *saddhā* is thought of as being a pragmatically efficacious aspect of the "religious road."[247] According to Hoffman, the acceptance of this more nuanced view of *saddhā* in early Buddhism has been obstructed by uncritical acceptance of "the received view of early Buddhism as empiricism on which certain uses of *saddhā* may be ignored as anomalous data which do not fit the received view." [248] On Hoffman's pragmatic interpretation, *saddhā* can be categorized into three types of pragmatically efficacious "faith" or "confidence" in early Budhism: "initial faith", confidence in the path and Triple Gem, and faith in one's own religious experience. He explains these three as follows:

> "First, *saddhā* is pragmatically efficacious in coming to hear the doctrine. This does not necessarily involve an element of intellectual assent, but does involve a willingness to approach a teacher and listen to the *dhamma*. When *saddhā* is applied at this level it can be characterized as 'initial faith'. Secondly, while on the path and before enlightenment, *saddhā* is one of the five qualities necessary for making progress on the path. In particular, the development of *abhiñña* requires *saddhā* At this level *saddhā* may be rendered 'confidence', and here confidence in the Buddha, the *Dhamma*, and the *Saṅgha* would be appropriate

[247] Frank J. Hoffman, "The Pragmatic Efficacy of Saddhā," p. 399
[248] Frank J. Hoffman, "The Pragmatic Efficacy of Saddhā," p. 399-400

examples. Thirdly, *saddhā* is necessary after becoming enlightened if one is to teach the doctrine effectively as did Gotama Buddha At this level *saddhā* may be characterized as 'realized faith, and in this sense it is incompatible with doubt (*viccikicchā*)."[249]

However, it is not clear how such pragmatically effective faith is at odds with an epistemic predilection for inference from personal experience. Because early Buddhism promotes a systematic "path" of practices which lead to a purportedly salvific understanding (and the passing along of that understanding), and lists the factors which are conducive to development along that path, does it then follow that its criteria for knowledge cannot then rightfully be considered to be observation based? On the contrary, it seems more accurate to say that early Buddhism's criteria for knowledge are indeed rooted in inference from personal *a posteriori* experience, and that it prescribes practices to purify the initially flawed mental processes underlying that experience in order to secure its epistemic accuracy and, indeed, one's certainty in that accuracy. The role of *saddhā*, then, would be to motivate progress along this path towards epistemic accuracy and certainty. On this account, the pragmatic aspects of early Buddhist doctrine and its emphasis on personal *a posteriori* experience are not at odds with one another, but are in fact mutually reinforcing aspects of the same epistemic system.

Hoffman's dichotomy between pragmatic and experiential approaches to knowledge betrays a modernist post-Cartesian conception of epistemology which, as we shall see in the following discussion of early Buddhist constructivist accounts of experience and their relation

[249] Frank J. Hoffman, "The Pragmatic Efficacy of Saddhā," p. 405

to meditation, is simply not applicable to early Buddhist epistemology. The distinction between post-Cartesian approaches to epistemology and pre-modern epistemologies which presupposed a necessary *praxical* element is made clear by Michel Foucault in his 1983 interview with Bert Dreyfus and Paul Rabinow in which he states that:

> "In European culture up to the sixteenth century, the problem [from antiquity] remains: What is the work which I must effect upon myself so as to be capable and worthy of acceding to the truth? To put it another way: truth always has a price; no access to truth without *ascesis* […] Descartes, I think, broke with this when he said, 'To accede to truth, it suffices that I be any subject which can see what is evident.' Evidence is substituted for *ascesis* at the point where the relationship to the self intersects the relationship to others and the world. The relationship to the self no longer needs to be ascetic to get into relation to the truth. It suffices that the relationship to the self reveals to me the obvious truth of what I see for me to apprehend that truth definitively. Thus, I can be immoral and know the truth. I believe that this was an idea which, more or less explicitly, was rejected by all previous culture. Before Descartes, one could not be impure, immoral, and know the truth. With Descartes, direct evidence is enough. After Descartes, we have a non-ascetic subject of knowledge. This change makes possible the institutionalization of modern science."[250]

So, while Hoffman's analysis rests on the tacit assumption of the incompatibility of pragmatic means towards knowledge and empirical epistemology, it is clear that at least in some cases, pragmatic means have been seen, on the contrary, as a necessary prerequisite for justified empirical epistemology. While this point certainly provides a strong counterexample to the general application of Hoffman's distinction, we still have not clearly demonstrated that these two epistemic stances are cohabitant in early Buddhism in particular. Before turning to

---

[250] Michel Foucault, *Ethics: Subjectivity and Truth*, pp. 278-279.

this point, however, we must first explore Hoffman's last two points regarding the incompatibility of religious experience and *abhiñña* with experientially-based epistemology.

On Hoffman's account, both the content of the Buddha's awakening and information known through *abhiñña* are taken as "religious wisdom" gleaned from "religious experience." According to Hoffman's analysis, such experiences, assuming they do indeed occur, could not yield meaningful empirical content because of their non-falsifiability and inevitable reliance on what the religious investigator "brings with him" to the search for "religious discovery."[251] Rather, such "religious knowledge" is only meaningful in terms of a "pragmatic criterion for meaning," in which "a proposition [sic] is meaningful if and only if it can make a difference," in this case, in the life of the religious practitioner.[252] Hoffman draws the distinction as such:

> "If my line of thinking is correct, then it is a mistake to think that there is a body of propositions which can be rightly labeled 'religious knowledge', in a sense even remotely analogous to scientific knowledge. Unlike 'religious knowledge', there may indeed be 'religious wisdom', but if there is, it is to be found embodied in the lives of religious people, and as with 'philosophical wisdom', cannot be defined in a set of propositions but is embodied in practices."[253]

We can see here how the two distinctions in Hoffman's thought discussed prior, the pragmatic-empirical distinction and the distinction between early Buddhist and Western

[251] It is important to note here that Hoffman point is not to doubt that such religious experiences occur, or even to doubt that they yield some sort of information to the experiencer. His point is that, assuming that such experiences occur and do yield some sort of information, that information could not rightfully be considered "knowledge," or at least knowledge on par with that gleaned from empirical observation or scientific experimentation.
[252] Frank J. Hoffman, "The Pragmatic Efficacy of Saddhā," pp. 407-408
[253] Frank J. Hoffman, *Rationality and Mind in Early Buddhism*, pp. 95-96

empiricist epistemology, converge here to form a third distinction between "religious wisdom" and "scientific knowledge." For Hoffman, knowledge gained through "religious experience" cannot constitute knowledge in the epistemic sense of empirical verification because for him (a) the praxiological aspect of religious investigation will always result in "religious discovery" being to some degree contaminated by what the religious explorer "brings with him" to the search, and (b) the content of "religious experience" cannot be taken as empirical evidence because it is not in accord with the falsifiability principal of modern empiricism, positivism, and science. Thus, in Hoffman's view, both the content of the Buddha's awakening and information known through *abhiñña* can only be seen as pragmatically meaningful "religious wisdom," but never as epistemologically valuable empirical knowledge.

However, as we have seen, neither the fact that an epistemological system (a) employs pragmatically effective means towards attaining knowledge, nor the fact that it (b) fails to comply with the doctrines of modern empiricism, positivism, or science entails that that system cannot rely primarily on personal *a posteriori* experience for evidence, and thus be a form of "empiricism" in the broad sense. With regards to his first point, while it is true that any praxiologically based method for the attainment of knowledge runs the risk of being tainted by the presuppositions or biases of the investigator, it seems that this view is not in accord with the way that the early Buddhists praxiological system is presented in the Pāli Nikāyas. If, as I have suggested, the goal of early Buddhist practices was to purify the flawed mental processes underlying experience in order to gain epistemic accuracy and certainty in the pursuit of salvific

knowledge, then it is clear that such practices would be aimed towards removing any such tainted presuppositions.[254] From this perspective, the content of the Buddha's awakening or various supersensory observations would constitute highly accurate *a posteriori* observations which a practitioner could trust with strong epistemic certainty. Hoffman's second point requires no further exegesis; it is already clear that an experientially based epistemology does not require a doctrine of falsifiability. Thus, if my contention that the early Buddhist praxiological system and the mental qualities associated with progress in that system are to be thought of as pragmatically effective methods and factors for improving the accuracy of *a posteriori* observation, then, despite Hoffman's objections, it is clear that early Buddhist epistemology should be considered a sort of "pragmatic empiricism"[255] aimed at the experience of salvific knowledge. We will now shift our focus to demonstrating that very point.

3.1.2 MENTAL CONSTRUCTION AND MEDITATION IN EARLY BUDDHISM

[254] Of course, the question of whether these practices succeed at accomplishing their stated goals is still up for debate. However, the question of the efficacy of an epistemological program's prescribed methods is a separate question from the questions of concern to us here: the type of information which such a program takes as legitimate evidence and the methods it sees as legitimate for the discovery of that evidence. While the question of the legitimacy of the system's presumptions and methods is important, it doesn't seem to have any bearing on how one characterizes the system in general. For example, if there was some epistemic system which held that only tactile evidence yielded valid knowledge and prescribed a set of exercises *x* for the improvement of tactile accuracy, one would still describe it as an "*x*-based tactile empiricism," regardless of how misguided one took its premises to be.

[255] In using these terms I do not intend any reference to the historical or modern Western schools of philosophical thought known as "pragmatism" or "empiricism". I simply use the terms in their general sense as short hand for "requiring practice" and "epistemological system which takes inference from *a posteriori* experience as its primary source of knowledge," respectively.

Thus far, we have suggested that early Buddhist "pragmatic empirical" epistemology involves a set of practices aimed at the purification of the flawed mental processes underlying experience in order to secure the epistemic accuracy of *a posteriori* experience, thus providing direct access to salvific knowledge. However, we have not yet provided any evidence that this is the case. Therefore, at this point, our goal is to demonstrate this fact by explicating early Buddhist accounts of the conditioned construction of experience, how mental flaws within this constructive process lead to false conceptualizations, and how meditative practices guard against these flaws.

3.1.2.1 THE MENTAL CONSTRUCTION OF EXPERIENCE IN THE PĀLI NIKĀYAS

In the Pāli Nikāyas, subjective experience is presented as a constructive process by which sensory perception and cognition are actively conditioned by -- and in turn themselves condition -- conceptual frameworks, emotions, and interpretive predispositions. As Anālayo Bhikkhu puts it in his seminal work on Buddhist meditation, *Satipaṭṭhāna: The Direct Path to Realization*:

> "That is, all perceptual processes rely to some extent on the mind, since it is the mind which "makes sense" out of the other senses. This shows that the early Buddhist scheme of six sense-spheres does not set pure sense perception against the conceptual activity of the mind, but considers both as interrelated processes, which together bring forth the subjective experience of the world. […] Supposedly objective perceptual appraisal is in reality conditioned by the subject as much as by the object. One's experience of the world is the product of an interaction between the 'subjective' influence exercised by how one perceives the

> world, and 'objective' influence exercised by the various phenomena of the external world."[256]

Perhaps the clearest delineation of the early Buddhist account of the conditioning processes underlying subjective experience can be found in the *Madhupiṇḍika Sutta,* the "Honeyball" Sutta, of the *Majjhima Nikāya*. In this sutta, the Buddha presents his teaching as the dispelling of various latent (*anuseti*) perceptual cognitions (*saññā*) and the overcoming of "latent tendencies" (*anusaya*) which may influence the process of perception, such as sensual desire, irritation, views, doubt, conceit, craving for existence, and ignorance.[257] As noted by Anālayo, other such latent tendencies are listed throughout the canon, such as the latent tendencies to mental standpoints, adherences, lust , and craving.[258] Ranging from the emotional to the conceptual, the common characteristic of these latent tendencies is that they distort or bias the process of perception. In this way, the concept of *anusaya* can be thought of as being similar to the related early Buddhist concept of "influxes" (*āsava*), which arise without conscious intention due to unwise attention (*ayoniso manasikāra*) or ignorance (*avijjā*) and influence the perceptual process through sensual desire, the desire for existence, or ignorance, some of the primary causes of suffering (*dukkha*) in early Buddhism.[259]

---

[256] Anālayo, *Satipaṭṭānha,* pp. 217-219
[257] M I 108-110, c.f. Tsu-fe Kuan, *Mindfulness in Early Buddhism*, p. 17-19; and Anālayo, *Satipaṭṭhāna,* p. 223.
[258] S II 17 and S III 135, (S IV), Dhp 338
[259] Anālayo, *Satipaṭṭhāna,* pp. 223-224, citing M I 7, M I 9, M I 55, A III 414, D II 81, S V 421,

In the *Madhupiṇḍika Sutta,* the Buddha's teachings regarding the conditioned construction of subjective experience and its distortion by latent mental tendencies is explicated by the monk Mahā Kaccāna as follows:

> "Friends, depending on the eye and visible forms, eye-consciousness arises. The combination of the three is contact (*phasso*). With contact as condition feeling (*vedanā*) [arises]. What one feels, one apperceives (*sañjānāti*). What one apperceives, one thinks about (*vitakketi*). What one thinks about, one conceptually proliferates (*papañceti*). With what one conceptually proliferates as the source, apperceptions and naming [associated with] conceptual proliferation (*papañca-saññā-saṅka*) assail a person with regard to past, future, and present forms cognized by the eye. [The same is said of the other five senses, namely ear, nose, tongue, body, mind-organ]"[260]

If one ceases to delight in or be attached to "the source from which apperceptions and naming [associated with] conceptual proliferation assail a person," then the underlying tendencies which distort one's experience and lead to various immoral actions "cease without remainder."[261]

In his 1971 work exploring the canonical concept of conceptual proliferation, *Concept and Reality in Early Buddhist Thought*, Bhikkhu Ñānanda sheds light on the theory underlying this passage through an analysis of its grammatical structure. In his analysis, Bhikkhu Ñānanda points to three grammatical modes in the *Madhupiṇḍika* formula which reveal three distinct

---

[260] M I 111-112, translated in Tsu-fe Kuan, *Mindfulness in Early Buddhism*, pp. 18-19
[261] M I 110

stages within its theory of perceptual experience.[262] First, the passage begins with a purely impersonal account of the initial conditions for the dependant arising (*paṭicca-samuppāda*) of feeling (*vedanā*): the sense organ, the object of sensation, and the consciousness associated with that sense modality. These three together constitute contact (*phasso*), which naturally, without input from any agent, gives rise to feeling.

After the concept of *vedanā* is introduced, this "impersonal note" shifts through the introduction of the third person verb ending, indicating the beginning of deliberate mental activity,[263] or at the very least the "intrusion of the ego-consciousness" and the subject-object distinction into the process of perception.[264] This portion of the perceptual process, which includes the process of conceptual development from feeling (*vedanā*) to apperception (*saññā*) to thought (*vitakka*) and finally to conceptual proliferation (*papañca*), is of crucial importance for early Buddhist epistemology and soteriology for three reasons. First of all, it is at this point in the perceptual process when the constructive aspects of experience are introduced. According to Bhikkhu Anālayo, this is the crucial stage in the sequence where "subjective bias can set in and distort the perceptual process," with these biases and distortions being further reinforced by thinking and conceptual proliferation. As he puts it:

---

[262] Bhikkhu Ñānanda, *Concept and Reality in Early Buddhist Thought*, pp. 5-7
[263] Bhikkhu Ñānanda, *Concept and Reality in Early Buddhist Thought*, p. 6
[264] David J. Kalupahana, *Causality: The Central Philosophy of Buddhism*, p. 122

> "Once the stage of conceptual proliferation is reached, the course is set. The proliferations are projected back onto the sense data and the mind continues proliferating by interpreting experience in line with the original biased cognition. These stages of cognition and initial conceptual reaction are therefore decisive aspects of this conditioned sequence."[265]

Further, as Tse-fu Kuan notes, in verse 916 of the *Aṭṭakavagga*, it is stated that the concept of ego-consciousness introduced in this stage is at the very root of the process of "naming associated with conceptual proliferation" (*papañcasaṃkhāyā*), which plays a crucial role in the experiential distortion which obstructs insight and liberation.[266] Finally, as Tse-fu Kuan further demonstrates, in early Buddhism, emotion is thought of as arising from a subjective reaction to the cognitive labeling associated with apperception (*saññā*) which occurs in this stage.[267] Thus, this stage plays a primary role in determining whether or not the perceptual process gives rise to the type of emotional response which either reinforces underlying tendencies (*anusaya*) towards emotional disturbance[268] or leads to the "naming associated with conceptual proliferation."[269]

Following the arising of *papañca*, a third stage of the perceptual process begins in which the third person verb-ending is lost and the perceiving subject is portrayed as a passive experiencer of the "apperceptions and naming [associated with] conceptual proliferation"

---

[265] Anālayo, *Satipaṭṭhāna,* p. 222
[266] S 916; Tsu-fe Kuan, *Mindfulness in Early Buddhism*, p. 22
[267] Tsu-fe Kuan, Mindfulness in Early Buddhism, pp. 26, 28
[268] C.f. Tsu-fe Kuan, *Mindfulness in Early Buddhism,* pp. 32-33 with reference to S IV 209
[269] C.f. Tsu-fe Kuan, *Mindfulness in Early Buddhism,* p. 34 with reference to DN II 277-279; also Anālayo, *Satipaṭṭhāna,* p. 226

(*papañca-sañña-saṅka*) which form the final stage of perceptual process. As Bhikkhu Anālayo puts it:

> "Once the conditioned sequence of the perceptual process has reached the stage of conceptual proliferation one becomes, as it were, a victim of one's own associations and thoughts. The thought process proliferates, weaving a net built from thoughts, projections, and associations, of which the 'thinker' has become almost a helpless prey."[270]

Bhikkhu Ñānanda is perhaps even more exuberant in his description of this stage:

> "Now comes the most interesting stage of the process of cognition. *Apparently* it is no longer a mere contingent process, nor is it an actively deliberately directed, *but an inexorable subjection to an objective order of things*. At this final stage of sense-perception, he who has hitherto been the subject now becomes the hapless object. […] Like the legendary resurrected tiger which devoured the magician who restored it to life out of its skeletal bones, the concepts and linguistic conventions overwhelm the worldling who evolved them"[271] (emphasis his)

Thus, as we have seen, the early Buddhist account of the conditioned construction of experience is unequivocal about the fact that the process of perception is highly susceptible to bias and distortion through the feedback loop of influence between latent mental tendencies and conceptual proliferation on the one hand, and perceptual cognition, emotional reactions, and belief in the self on the other. The overcoming of these perceptual distortions and biases is portrayed as a central goal of early Buddhist epistemology and soteriology throughout the canon. For example, the inextricable relationship between the knowledge, liberation, and the

---

[270] Anālayo, *Satipaṭṭhāna*, p. 222
[271] Bhikkhu Ñānanda, *Concept and Reality in Early Buddhist Thought*, p. 6

eradication of perceptual distortions is emphasized in the *Mahāvagga* of the *Samyutta Nikāya*, in which the Buddha is recorded as saying that the whole purpose of the Buddhist path is to abandon the fetters (*saṃyojana*)[272], uproot the latent tendencies (*anusaya*), fully understand the course [of saṃsāra, i.e. attain *nibbāna*] (*addhāpariññatthaṃ*), destroy the influxes (*āsava*), realize the fruit of true knowledge and liberation, to gain knowledge and vision, and to attain final Nibbāna without clinging.[273]

3.1.2.2 THE EPISTEMIC VALUE OF MINDFULNESS AND THE JHĀNAS

The method promoted in early Buddhist doctrine for the quelling of the various processes which lead to perceptual distortion is a set of meditative practices beginning with the cultivation of mindfulness (Pali *sati* Skt *smṛti*), leading to various stages of meditative absorption (*jhāna*), and culminating in liberating insight. Throughout the canon such methods are prescribed as effective antidotes to each of the causes of perceptual distortion we have discussed: latent mental tendencies, conceptual proliferation, emotional reactions, and the belief in a self.

In order to understand the processes by which these meditative practices are thought to diminish these various mental factors, we will begin by discussing the relationship between *sati*

[272] Most commonly given as a set of ten: belief in a substantial and permanent self, doubt, dogmatic clinging to particular rules and observances, sensual desire, aversion, craving for fine-material existence, craving for immaterial existence, conceit, restlessness, and ignorance
[273] S V 28-29, translated in Bhikkhu Bodhi, *The Connected Discourses of the Buddha, Vol. II*, p. 1542

and *saññā* (apperception or perceptual cognition) because, as we have alluded, the functioning of *saññā* plays a crucial role in the development of all of the other causes of perceptual distortions, be they cognitive, emotional, or ego-based.

Interestingly, *sati* and *saññа* are characterized throughout the canon in very similar ways. Both appear to play similar roles in cognition, being crucially involved in perceptual discrimination, recognition, and recollection.[274] However, it becomes clear that there is a distinct difference between the two when one notes that texts such as the *Aṭṭakavagga*, the penultimate chapter of the *Sutta-nipāta*, strongly advocate the practice of *sati*[275] and dissociation from *saññа*.[276] Based on these considerations, Tse-fe Kuan suggests that, "The implication is that *sati* is a decisive factor in the proper functioning of *saññā*, and the practice of *sati* consists in developing correct and wholesome cognition, a perfect and undistorted from of *saññā*."[277]

Indeed, it appears that one of the central functions of *sati* is to prevent *saññā* from developing into conceptual proliferation (*papañca*), effectively cutting off the chain of conditioned construction which leads to perceptual distortion in the *Madhupiṇḍika* formula.[278] We can see this point clearly demonstrated in the *Pāsādika Sutta*, in which the four

---

[274] Tsu-fe Kuan, *Mindfulness in Early Buddhism*, pp. 13-17
[275] Verses 768, 771, 855, 916, 933, 962, 964, 973, 974, 975
[276] Verses 792, 802, 841, 847, 874, 886
[277] Tsu-fe Kuan, *Mindfulness in Early Buddhism*, p. 16
[278] Tsu-fe Kuan, *Mindfulness in Early Buddhism*, pp. 21-22

establishments of mindfulness (*satipaṭṭhāna*)[279] are recommended for the abandoning of speculative ontological views, which are said elsewhere to arise from *sañña* and *papañca*.[280] These conceptual additions to perception are said to be diminished through meditative practices in which the practitioner aims to observe and understand the objects and experiences associated with the four *satipaṭṭhāna* "as they actually are" throughout their arising and vanishing in perception.[281] Therefore, in sutta 95 of the *Saḷāyatana Saṃyutta*, mindfulness is associated with perceiving merely what is perceived through the senses without becoming attached to its "sign" (*nimitta*), the perceptual features by which one discriminates and recognizes a percept.[282] Thus, it is clear that, canonically, the practice of mindfulness is thought of as leading towards a deconceptualization of perception. In this way, the practice of mindfulness is aimed at breaking through the natural tendency "to substitute abstract cognitive patterns or perceptual preconceptions for the raw sensory experience,"[283] thereby diminishing perceptual distortion.

As mentioned above in the *Madhupiṇḍika Sutta*, if one is able to forego their attachment to conceptual proliferations, then the underlying tendencies(*anusaya*) which distort one's

---

[279] i.e. the body (*kāya*), the feelings (*vedanā*), the mind (*citta*), and phenomena (*dhammas*)
[280] DN III 141, translated in Muarice Walsh, *The Long Discourses of the Buddha*, p. 438; c.f. also Tsu-fe Kuan, *Mindfulness in Early Buddhism*, p. 24
[281] Anālayo, *Satipaṭṭhāna,* pp. 3-4; Tsu-fe Kuan, *Mindfulness in Early Buddhism,* p. 16
[282] S IV 73-75, translated in Bodhi, *The Connected Discourses of the Buddha, Vol. II*, pp. 1175-1177
[283] Daniel Goleman, " The Buddha on Meditation and States of Consciousness, Part II," p. 219, quoted in Tsu-fe Kuan, *Mindfulness in Early Buddhism*, p. 24

experience and lead to various immoral actions "cease without remainder." Therefore, mindfulness's distinct ability to impede the process of conceptual proliferation also obstructs both the processes by which habitual mental tendencies are created and by which they influence perception. Bhihkku Anālayo elaborates on this point:

> "The presence of *sati* directly counteracts automatic and unconscious ways of reacting that are so typical of habits. By directing *sati* to the early stages of the perceptual process, one can train cognition and thereby reshape habitual patterns. Of central importance in this context is the receptive quality of mindfulness, which gives full attention to the cognized data. Of equal significance is *sati's* detached quality which avoids immediate reactions. […] In this manner, through *satipaṭṭhāna* contemplation, it becomes possible to access and redress a central cause of the arising of unwholesome cognitions, and thereby for the activation of influxes (*āsava*), underyling tendencies (*anusaya)*, and fetters (*saṃyojana*), by de-automatizing or deconditioning habits and subconscious evaluations."[284]

Through such a process, the habitual conceptual progression by which distorted or biased cognitions give rise to "significant misapprehensions of reality that affect the fundamental structure of ordinary experience,"[285] including the conceptions of permanence, satisfaction, substantiality, and the ego-consciousness, is interrupted.

Having now thoroughly addressed the effects of *sati* on the conceptual aspects of the perceptual process, we will now turn to the ways in which it is thought to counteract emotionally-based distortions of perception. As we have already seen to some extent through

---

284 Anālayo, *Satipaṭṭhāna*, p. 229
285 Anālayo, *Satipaṭṭhāna*, p. 226

prior mention of the relationship between perceptual cognition and emotion early Buddhist account of subjective experience, the emotional and cognitive aspects of experience are thought as being intimately intertwined within early Buddhist canon. This relationship is also underlined in the above analysis by Bhihkku Anālayo, in which mindfulness de-automatizes the perceptual process not only by ensuring deconceptualized perception, but by diminishing immediate emotional reactions. Tsu-fe Kuan points to a remark by Richard Gombrich which demonstrates this point poignantly:

> "[T]wo rival analysis of life's problems were already on offer. I have dubbed them the intellectualist – which locates the nub of the problem in our lack of true understanding – and the emotionalist – which blames our lack of self-control. The Buddha wonderfully combined the two. You can't see thing straight because you are blinded by passion, and you allow your emotions to run you because you do not see things as they are"[286]

Throughout the Pāli canon, *sati* is portrayed as playing a crucial role in ensuring that this relationship does not lead to perceptual distortion and suffering by breaking the link between feelings (*vedanā*) and habitual mental tendencies (*anusaya)*. One clear example is found in suttas 6 and 7 of the *Vedanā Saṃyutta*. In *sutta* 6, a strict distinction is made between the initial bodily sensory-reception and the subsequent emotional reaction to that sensation. In this *sutta*, the elimination of the secondary emotional reaction is said to cause the underlying tendencies (*anusaya*) to aversion, lust, and ignorance to no longer lie latent in the "noble disciple," resulting

[286] Richard Gombrich, *Theravada Buddhism*, pp. 65-66; quoted in Tsu-fe Kuan, *Mindfulness in Early Buddhism*, p. 34

in liberation.[287] This process can be related to the canonical concept of restraint (*saṃvara*) or "safeguarding" of the senses, in which one does not grasp at the signs (*nimitta*) or secondary characteristics (*anuvyañjana*) of a percept in order to obstruct the potential influx of "evil unwholesome states" such as covetousness and dejection.[288] In the following *sutta* 7, this sentiment is repeated, and the four *satipaṭṭhānas*, in conjunction with clear comprehension (*sampojāna*), are prescribed as antidotes to disturbing emotions and the underlying tendencies which they bring about.[289] Rather, as indicated in the *Saḷāyatanavibhaṇga* Sutta and the first sutta of the *Anuruddha Saṃyutta*, the *satipaṭṭhānas* "enable one to surmount emotional agitation and achieve equanimity (*upekkhā*) through transforming *saññā*."[290] Thus, *sati* functions to quell emotional distortions of experience by severing the link between initial sensation and the development of habitual mental tendencies by replacing emotional reactions to perceptual cognition with equanimity.

The cognitive and emotional refinements which result from the development of *sati* play a crucial role in the practice of the *jhānas*. As we have seen, the sensory, conceptual, and emotional processes underlying experience are thought of as being intimately intertwined in the conditioned construction of experience in early Buddhism. This conception of mental processes also underlies the early Buddhist descriptions of the *jhāna* states, in which cognitive and emotional refinement are seen as being mutually influential. Perhaps unsurprisingly, then, mindfulness's ability to "steer and regulate" both cognition

[287] SN IV 208-209, translated in in Bhikkhu Bodhi, *The Connected Discourses of the Buddha, Vol. II*, p.1264-1265

[288] c.f. Tsu-fe Kuan, *Mindfulness in Early Buddhism*, pp. 42-45 and Anālayo, *Satipaṭṭhāna*, pp. 225-226

[289] SN IV 211, translated in in Bhikkhu Bodhi, *The Connected Discourses of the Buddha, Vol. II*, p.1264-1265

[290] Tsu-fe Kuan, *Mindfulness in Early Buddhism*, p. 33

> and emotion is seen as a crucial factor in the development of the *jhānas* and in turn the "perfect knowledge which effects liberation."[291] Indeed, one finds that both "mindfulness and full awareness" and "guarding the doors of the sense-faculties" are listed throughout the Pāli canon as necessary preliminaries for the *jhānas*.

The standard descriptions given of the various *jhānas* throughout the *suttas*[292] are fairly similar, consisting of a stock formula with subtle variations given to explain the differences between each of the four *jhānas*. The *jhanas* are typically presented in a progressive pattern from the first to fourth, with each stage abandoning some of the factors associated with the previous *jhāna* while adding other new factors. The first *jhāna* is consistently described throughout the suttas as having the following factors or requirements:

a. Seclusion from sensual pleasures and unwholesome states

b. *Vitakka-vicara* – "reflection and investigation"; "initial and sustained mental application"; "directed thought and evaluation"

    i. *Vitakka* – "reflection", "thought", or "initial application of the mind"

    ii. *Vicara* – "investigation", "evaluation", "sustained application of the mind"

c. *Pīti-sukha* – "blissful happiness"; "rapturous pleasure"

    i. *Pīti* – "bliss", "rapture"

    ii. *Sukha* – "happiness", "pleasure"

d. *Ekaggata* – "one pointedness of mind"; or, "unification of mind"

---

[291] Tsu-fe Kuan, *Mindfulness in Early Buddhism*, p. 39
[292] E.g. M 39, M 77, M 119, etc.

From the base of the first *jhāna*, the further *jhāna*s are said to arise from the loss of certain factors and gaining of others. The second *jhāna* arises from the elimination of *vitakka-vicara* and the development of *sampasadana*, "inner composure", "tranquility", or "serene purity". In the second *jhāna*, *pīti-sukha* arises not from the abandonment of unwholesome states, but from concentration (s*amadhijam*). Upon entering the third jhana, *pīti* fades leaving only the more subtle pleasure of *sukha*, while nonreactive equanimity (*upekkha)*, mindfulness (*sati*), and clear awareness (*sampajañña)* arise. The fourth *jhāna*, is characterized by an abandoning of even *pīti,* leaving only one of the original factors associated with the first *jhāna*, *ekaggata*, remaining. With the abandonment of *pīti* a state of neither-pain-nor-pleasure *(adukkhamasukha*) is said to arise with the fourth *jhana*. With this strong grounding in equanimity, mindfulness is said to be purified, causing the final quality associated with the fourth *jhāna*, *upekkhasatiparisuddhi* ("purity of mindfulness due to equanimity"), to arise.

The intimate relationship between the purification of conceptual and sensory-emotional processes in *jhāna* meditation is made clear in the *Poṭṭhapāda Sutta* of the *Digha Nikāya,*[293] in which *saññā* is said to be gradually refined in accordance with the abandonment of grosser levels of sensory-emotional experience. Tse-fu Kuan summarizes and analyzes this process as follows:

---

[293] DN I 181-183, translated in Muarice Walsh, *The Long Discourses of the Buddha*, pp. 160-161

> "When a monk enters and dwells in the first *jhāna*, his previous conception of sensual pleasures (*kāma-saññā*) ceases, and at that time there arises a subtle and true conception of rapture and pleasure born of seclusion (*vivekaja-pīti-sukha-sukhuma-sacca- saññā*). Afterwards, when he enters and dwells in the second *jhāna*, his previous subtle and true conception of rapture and pleasure born of seclusion ceases, and there arises a subtle and true conception of rapture and pleasure born of concentration (*samādhija-pīti-sukha-sukhuma-sacca-saññā*). In the third *jhāna*, his previous subtle and true conception of rapture and pleasure born of concentration ceases, and there arises a subtle and true conception of equanimity and pleasure (*upekkhā-sukha-sukhuma-sacca-saññā*). In the fourth *jhāna*, his previous subtle and true conception of equanimity and pleasure ceases, and there arises a subtle and true conception of neither-pain-nor-pleasure (*adukkham-asukha-sukhuma-sacca-saññā*)."[294]

He concludes, "As grosser, or lower, levels of sensations or emotions are gradually abandoned when one proceeds to higher levels of *jhāna*, the *saññās* of corresponding sensations or emotions cease accordingly." This process culminates in a state of pure equanimity and mindfulness (*uppekkhā-sati-pārisuddhi*), in which the practitioner is placed in the optimal emotional and cognitive state for the realization of salvific knowledge in the form of the three gnoses (*vijjā*) or knowledges (*ñaṇa*).[295]

Interestingly, despite the fact that in many passages these first four *jhānas*, in conjunction with insight, are said to be sufficient for awakening, the Pāli Nikāyas also attest to a second set of *jhānas*, the four "formless" or "immaterial" (*arupa*) *jhānas*. While the facts that these meditative states (a) are recorded in the nikāyas as being criticized by the Buddha, (b) appear

---

[294] Tsu-fe Kuan, *Mindfulness in Early Buddhism*, p. 38-39

[295] i.e. (a) the detailed recollection of one's past lives, (b) the ability to see the passing away and reappearing of beings with the "divine eye", and to understand how this occurs in accordance with those beings' actions, (c) the realization through one's own direct knowledge that one has destroyed the fetters

very similar to states described in early Jain texts, and (c) do not appear in early *mātikā* prominent throughout the canon, cast doubt on the fact that this tetrad originated from the Buddha, it is important to mention them because of their acceptance in later Buddhist thought, even before the final compilation and closure of the nikāyas.[296] These four "formless absorptions" are referred to as: "the base of boundless space" (*akasanañcayatana*), "the base of boundless consciousness" (v*iññanañcayatana*), "the base of nothingness" (*akincaññayatana*), and "the base of neither-perception-nor-non-perception" (*nevasaññana saññayatana*). Through a process of increasing refinement of experience, these meditative absorptions are said to lead to the gradual "calming of mental formations," resulting ultimately in the cessation (*nirodha-samāpatti*) of appercation (*saññā*) and feeling (*vedanā*).[297] Therefore, we can see these meditative states as continuing the process of refining awareness which occurs in the former tetrad of *jhānas*, perhaps to a level of subtlety which goes beyond any *a posteriori* epistemic value.

Due to the contradictory nature of canonical descriptions of and attitudes towards these states, it is difficult to say to what extent we can accurately say that these techniques, once absorbed into the canon, could be accommodated into the general Early Buddhist epistemological and soteriological framework, if at all. Nevertheless, because both the *arupa jhānas* and *nirodha-samāpatti* figure somewhat prominently in later Buddhist meditative theories

---

[296] Johannes Bronkhorst, *Two Traditions of Meditation in Ancient India*, pp. xi-xv, 53-66
[297] Tsu-fe Kuan, *Mindfulness in Early Buddhism*, p. 74

and techniques, it is important that we mention them at this point in order to demonstrate their earliest formulations within the Buddhist tradition.

Thus, in short, we have seen that the early Buddhist account of experience relies on a constructivist model of perception whereby subjective experience is highly susceptible to the distorting influence of emotions, concepts, beliefs, and mental tendencies. On this account, these perceptual and cognitive distortions make up the primary obstructions to the direct apprehension of knowledge which constitutes the central soteriological goal of early Buddhism. Thus, early Buddhist doctrine prescribes the use of a set of meditative practices aimed at the sustained development of mental factors which progressively diminish and eventually obliterate altogether these distorting factors. Therefore, following Buddhologist Karen Lang, we might describe Buddhist meditation as a "tool for deconstructing the phenomenal world."[298]

Based on these considerations, we can conclude that while early Buddhist epistemology only accepts the validity of *a posteriori* knowledge, its commitment to a constructive account of experience leads it to place a central emphasis on practices which diminish the potential for corruption of that experience, leading to an emphasis on "pragmatic" means towards knowledge and the ways of experiencing thought to promote undistorted perception.

---

[298] c.f. Karen Lang, "Meditation as a Tool For Deconstructing the Phenomenal World," pp. 150-159

3.1.3 ABHIDHARMA DEVELOPMENTS

Coinciding with the development of "Buddhist sectarianism," beginning at least 218 years after the death of the Buddha, during the reign of Aśoka,[299] we see evidence of the beginnings of the doctrinal elaboration and clarification which would lead to the interpretive divergences found in the *abhidharma* (Pali *abhidhamma*) literature of the various schools.[300] This process of doctrinal elaboration had its roots in the practice, dating back possibly to the time of the Buddha or – at the very least – to before the "closing" of the *sūtrapiṭaka* ,[301] of the development of *mātṛkā* (Pali *mātikā*), lists of canonical concepts organized by numerical, qualitative, or doctrinal criteria. It was extrapolation from a common core of these *mātṛkā* which would lead to the development of the individual interpretive systems which made up the developed philosophical constructs found in the Theravada, Sarvāstivāda, and Śāriputra (probably Dharmaguptaka) Abhidharmas still available to us today.[302] This developmental process culminated in the development of, in the case of the the Sarvāstivādins, highly complex "dialectical expository treatises or pedagogical digests," including Vasubandhu's

---

[299] c.f. Hirakawa, "An Evaluation of the Sources on the Date of the Buddha", p. 282

[300] Erich Frauwallner, *Studies in Abhidharma Literature and the Origins of Buddhist Philosophical Systems*, p. 127

[301] Rupert Gethin "The Mātikās", pp. 158, 162; Frauwallner, *Studies in Abhidharma Literature and the Origins of Buddhist Philosophical Systems,* pp. 3-4, 121; Fumimaro Watanabe, *Philosophy and its Development in the Nikāyas and Abhidharma*, pp. 40- 45; Collett Cox, *Disputed Dharmas*, pp. 9-10

[302] Erich Frauwallner, *Studies in Abhidharma Literature and the Origins of Buddhist Philosophical Systems*, pp. 97-101, 124-125

Abhidharmakośakārikā and *Bhāṣya* and Saṅghabhadra's *Nyāyānusāra*,[303] and, in the case of the Theravadins, practical systematizations of the path to liberation, such as Upatissa's *Vimuttimagga* and Buddhaghosa's later, larger *Visudhimagga*.[304]

Perhaps the central development which we observe in the Abhidharma literature in general is a shift from a pragmatic, process-based account of conscious experience to an ontological, event-based analysis. In her 1993 dissertation, *The Constitution of the Human Being According to Early Buddhism*, Sue Hamilton demonstrates that the Buddha's teachings as presented in the Pāli Nikāyas represent not an essentialist ontological account of the components of consciousness and the world, but a pragmatic account of the processes which make up experience. Hamilton shows that the Buddha's teachings as they are found in the Pāli Nikāyas are intended to demonstrate how these processes function, only using the terms which refer to these processes in a purely provisional non-reifying (i.e. nominalist) manner out of pedagogical necessity in the verbal elucidation of their workings.[305] However, with the development of the *abhidhammika*'s emphasis on individuation, momentariness, hypostatization, and, as a result, the distinct individuation of particular events within psychophysical processes, we see a significant divergence from the Buddhism of the Nikāyas in both metaphysical and

---

303 Collett Cox, *Disputed Dharmas*, pp. 31, 35

304 Erich Frauwallner, *Studies in Abhidharma Literature and the Origins of Buddhist Philosophical Systems*, pp. 130- 131

305 Published as *Identity and Experience: The Constitution of the Human Being According to Early Buddhism*, Luzac Oriental, 1996; c.f. also in Richard Gombrich's essay "Debate, Skill in Means, Allegory and Literalism" in *How Buddhism Began*

epistemological emphasis. In her *Early Buddhist Metaphysics*, Noa Ronkin characterizes this change as a shift of emphasis from 'how' to 'what':

> "From the implicit, process-based epistemology, or conceptual scheme, operative in the Buddha's teaching the Abhidhammikas distil an underlying metaphysics in which the idea of a psycho-physical process is replaced by the notion of a *dhamma qua* a mental event as analytical primitive […]Indeed, the shift from the Nikāya mindset to that of the canonical Abhidhamma is metaphysical, for in their notion of a comprehensive picture of the world – and thus in their metaphysical vision – these two traditions draw on two divergent foundations. […][T]he Nikāyas' predominant concern is with one's experience throughout one's present birth and rounds of rebirth. From this perspective the crucial question is how exactly this recurring process of becoming and dissolution is triggered and how it may be brought to a halt. The Abhidhamma, albeit it is concerned with the same process, shifts the focus to the micro-scale of its inside constituents, zooming in, as it were, on the evanescent, one-time particular events of which it consists. Like the earliest Buddhist teaching, the Abhidhamma also accounts for conscious experience, but from a different perspective, along a different timescale and urged by a different motive, namely, to account or the nature of this experience. The Abhidhammikas thus had to individuate every possible occurrence in one's consciousness, and for this purpose an analysis into events is more appropriate than into processes."[306]

Ronkin goes on to say that, despite these shifts in metaphysical emphasis, both the Nikāyas and the canonical Abhidhamma[307] remain "epistemological rather than ontological" in their analysis of experience in that they are primarily concerned with "the conditions of the

---

[306] Noa Ronkin, *Early Buddhist Metaphysics*, p. 76-78

[307] Ronkin makes this point only with regards to the Theravada Abhidhamma, but we can legitimately extend it to apply to canonical Sarvāstivāda Abhidharma texts as well. In an erudite analysis of the history of the meaning of the word *dharma*, especially in relation to its ontological interpretation found in later Sarvāstivāda Abhidharma texts , Collett Cox demonstrates that "neither the early Sarvāstivāda, canonical Abhidharma texts nor the vibhāṣā compendia contain an abstract definition of *dharma*" as having a fixed, intrinsic nature (*svabhāva*) or existing as real entities (*dravyatas*). c.f. Collett Cox, "From Category to Ontology", pp. 558-561

psycho-physical occurrences that arise in consciousness – and in this sense form one's 'world' – not with what exists *per se* in a mind-independent world."[308] However, it is clear from her analysis that the shift in metaphysical emphasis she describes also entails a shift in epistemological presumptions and goals.

In her analysis of the differences between "process philosophies" and philosophies derived from substance-based ontologies, Ronkin points to a twofold distinction:

> "[P]rocess philosophy has two closely interrelated dimensions: the one conceptual, or epistemological, the second ontological. The former draws on the idea that our experience is best represented in terms of processes rather than in terms of things, and that any attempt to explain the idea of a 'thing' necessarily has recourse to the notion of process. The suggestion is that substance concepts are reducible to process talk; that it would be more instructive to analyse the items we categorize as 'things' in terms of instantiations of process-complexes. The ontological dimension of process philosophy, by contrast, centres on the idea that processes are the ultimate units of which the world consists and are ontologically more fundamental than 'things'."[309]

While Ronkin holds that both the process-based approach found in the *Nikāyas* and event-based system found in the canonical *Abhidharmas* should both ultimately be considered process philosophies, her point about the epistemic implications of shifting explanatory priority from "things" to processes can also be applied to the shift of explanatory emphasis from processes in the *Nikāyas* to events in the *Abhidharma*. By privileging representations of experience which take the form of individualized momentary psycho-physical *events* over

---

[308] Noa Ronkin, *Early Buddhist Metaphysics*, p. 76
[309] Noa Ronkin, *Early Buddhist Metaphysics*, p. 75

representations which take the form of psychophysical *processes*, the systematization of experience found in the canonical *Abhidharma* literature constitutes a considerable divergence from the epistemic system found in the Nikāyas in that it only admits and discusses those representations which either inherently fit into or are reconfigured to fit into this conceptual schema.[310]

Already in the early Theravadin Abhidhamma, this emphasis on the distinct individuation of discrete psychophysical events leads to a view of subjective experience which is radically different than any account given or implied in the Nikāyas. A prominent example comes from the *Dhammasaṅgaṇi*, perhaps the earliest text of Theravada *Abhidhammapiṭaka*, in which a section entitled the *Cittuppādakaṇḍa* enumerates and meticulously categorizes with multiple levels of increasingly fine distinction the various discrete *dhammic* events which constitute different varieties of consciousness (*citta*). Ronkin describes this project of "analysing experience into its ultimately basic elements" as follows:

---

310 Perhaps it is important to note here that, if we accept Hamilton's point about the provisionality and nominalism of the Buddha's terminology as found in the Pāli Nikāyas, then it is not clear that early Buddhism placed emphasis on any particular representational schema at all. Indeed, the emphasis on the deconceptualization of experience throughout the canon discussed above seems to point towards this hypothesis. Nevertheless, the fact that the Buddha chose to describe experience in terms of processes, rather than placing emphasis on a sequence of atomic primitives which make up these processes, seems to at least point to some preference for process based representations. However, regardless of the Buddha's epistemic predilection or non-predilection for conceptual models which emphasize processes over events, the *Abhidharmic* model described here is certainly a novel development.

"The pivotal point is that this analysis illustrates that any actual occurrence of consciousness consisting of an assemblage of *citta* and *cetasika* is unique. The Dhammasaṅgaṇi's repetitious question 'What is such-and-such a dhamma on that occasion?' is directed to the intension of the dhammas' individuality, that is, what a particular, individual *dhamma* is. […][T]he *Dhammasaṅgaṇi* not only delineates which *dhammas* qualify for inclusion in the categorization of primitive event types, but also shows that each *dhammic* instantiation or exemplification of those event types is a unique individual and provides a method of distinguishing any such individual *dhamma* as that particular instance. Any given consciousness moment is understood as falling into a certain broad category of *citta*, the number of categories depending on how many variables are taken into account. These variables engender differences in the quality, degree and intensity of the *dhammas'* operation, by virtue of which any given *dhamma* is not only numerically distinguishable from any other, but also individually distinguishable (note that individuation should not be conflated with numerical difference). These manifold distinctions 'must be understood as in some sense inherent to the very nature of any actual instance of a *dhamma*, and they, in addition to spatio-temporal location, distinguish that particular instance from other instances'."[311]

Thus, we see that the *Abhidhammikas'* shift in epistemic emphasis from processes to individuated and hypostatized temporal units led, even in its relatively early developments within the Theravada canon, to a drastically altered account of conscious experience consisting fundamentally of spatio-temporal particulars.

This tendency towards analytic precision and minute distinction down to the smallest distinguishable unit led to marked effects in the way the meditation was presented in the early Theravada *Abhidhamma*. One notable divergence from the presentation of meditation in the Nikāyas is that in the *Cittakaṇḍa* of the *Dhammasaṅgaṇi* we find the process of meditative

---

[311] Noa Ronkin, *Early Buddhist Metaphysics*, pp. 147-150, quoting Piatigorsky, *The Buddhist Philosophy of Thought*, p. 3

development presented not only in the context of the familiar series of four *jhānas*, but also in terms of a series of five *jhānas*. The addition of an additional *jhāna* is accomplished by introducing an intermediate stage between the first and second *jhānas*. Erich Frauwallner describes this development as follows:

> "This can be explained as follows: the Buddha's revelation as represented by the old path of liberation posits four *jhānāni* during the decisive process of liberation, the first of which is *savitakkaṃ savicāraṃ* and the second *avitakkaṃ avicāraṃ* It seemed logical in addition to these two to assume a level of meditation in which only the *vitakko* is missing but where the *vicāro* is present. And in the old canon there is in fact a group of three *samādhī*, the first of which is *savitakko savicāro*, the second *avitakko vicāramatto*, and the third *avitakko avicāro*."[312]

Here we have a clear case of doctrinal development based on a unique combination of strict doctrinal adherence and finite discrimination of temporal and conceptual units. It seems that the *Abhidhammikas* reasoned that, strictly speaking, because there is canonical evidence of a state of *samadhī* which includes *vicāro* but not *vitakko*, there could be a *jhānic* state conceptually distinct from both the first and second *jhānas* as canonically described. Further, assuming a model which privileges discrete temporal units over gradual processes, this intermediate state would have to occur within a distinct moment which, at the most fundamental level of analysis, would be separate from any of those moments in which the first or second *jhānas* occurred. Therefore, it seems that through its adherence to a conceptual schema primarily focused on conceptual and temporal individuation, *Abhidhammic* analysis led to a novel account of the

---

312 Erich Frauwallner, *Studies in Abhidharma Literature and the Origins of Buddhist Philosophical Systems*, p. 58

stages of meditation. However, this development does not represent a significant divergence from the content or course of the path of meditation as found in the *Nikāyas*, but a mere reorganization of that doctrinal information. We have yet to see how or if the *Abhidhammic* analysis led to significant divergences in its account of either the content or general course of meditative practice.

Perhaps the most significant development one finds with regards to meditation within the Theravada Abhidhamma literature is the addition of the concept of "supramundane" or "transcendent" *jhānas* (*lokuttara jhāna*). These supramundane absorptions are constituted of many of the same factors associated with our first tetrad of "mundane" *jhānas*,, along with some unique factors, and the stipulation that those factors which make up the Eightfold Path (*maggaṅga*) or the seven factors of awakening (*bojjaṇga*)[313] function in this state specifically as immediate contributors to the attainment of awakening.[314]

The supramundane *jhānas* are presented within a framework composed of four levels (*bhūmi*), corresponding to the four paths and fruits of the stream-enterer, the once-returner, the non-returner, and the *arahat*,[315] with each level subdivided according to the four and five *jhāna*

[313] i.e. mindfulness (*sati*), investigation of dhamma(s) (*dhamma vicaya*), energy (*viriya*) rapture (*pīti*), tranquility (*passaddhi*), concentration (*samādhi*), and equanimity (*upekkha*)
[314] Henepola Gunaratana, *A Critical Analysis of the Jhānas in Theravada Buddhist Meditation*, pp. 196-197
[315] C.f. Caroline Rhys Davids, *A Buddhist Manual of Psychological Ethics*, p. 82, note 1, on the equivocation of the *bhūmis*, and the four paths and fruit in the *Dhammasaṅgaṇi*'s discussion of the *lokuttara jhāna*

schemas.[316] Within this framework, the practitioner's propensities are gradually eliminated, as the three factors of wisdom arise. Within the first *bhūmi*, fixed views (*diṭṭhigatāni*) are eliminated, while the faculty of knowing that one "shall know the unknown" (*anaññātaññassāmitindriya*) arises. Within the second *bhūmi*, the fetters of sensual craving (*kāmarāgo)* and ill-will (*vyāpādo*) are weakened as the faculty of final knowledge (*aññindriya*) first arises. The faculty of final knowledge continues to be present in the third *bhūmi*, while sensual lust and ill-will are eliminated completely. With the fourth *bhūmi*, the fetters of *ruparāgo* (craving for material existence), *aruparāgo* (craving for immaterial existence), *māno* (conceit), *uddhaccaṃ* (restlessness or distraction, *and avijjā* (ignorance)are eliminated completely, and the faculty of the completion of final knowledge (*aññātavindriya*) arises.

Frauwallner attributes the development of the concept of the *lokuttara jhāna* to the recognition of a fundamental difference between the canonical descriptions of the four *jhāna* and the four *arupa jhāna*. [317] On the one hand, it is the content of the meditation, "of which one becomes conscious in the meditation itself," which determines the character of the *arupa jhāna*.

---

[316] Note that only the first *bhūmi* is explicated here in terms of the full *jhānic* schemas, with the expositions of other *bhūmis* only making mention of the first *jhāna*. However, it seems more sensible to attribute the omission of the higher *jhānas* in the context of the higher *bhūmis* to perfunctory brevity on the part of the text's authors than to the seemingly absurd doctrinal position that only the first *jhāna* is relevant to the higher *bhūmis*. C.f. Erich Frauwallner, *Studies in Abhidharma Literature and the Origins of Buddhist Philosophical Systems*, p. 69, note 54 (p. 219), where it is stated: "It is incomprehensible why this is confined to the first *jhānaṃ*. This must surely be due to cursoriness, just as in the Abhidharma of the Pāli school excessive breadth at the beginning is often followed by carelessness at the end."

[317] Erich Frauwallner, *Studies in Abhidharma Literature and the Origins of Buddhist Philosophical Systems*, p. 64

On the other hand, in contrast to this, the four *jhāna* are defined in terms of the mental factors which arise or cease in the process of training the mind. As Frauwallner puts it, "[A]s soon as this fundamental difference between *jhānāni* and *arūpa* had been realized, they could no longer be put alongside each other as levels of meditation in the same way. It was only the *ārūpa* that were and remained levels of meditation. On the other hand, it was only natural to combine the *jhānāni* with all the levels of meditation as a training for the mind."[318] Thus, in the *Cittakaṇḍa* of the *Dhammasaṅgaṇi*, the levels of meditation are presented as a progression from preparatory levels of meditation[319] to the *ārupā jhānas*, with the four *jhānas* accompanying each of these levels of meditation at their various stages of development. Thus, "according to the description in the Dhammasaṅgaṇi the 4 *jhānāni*are not a form of mediation in their own right, separate from other forms, but [rather] accompany all forms of mediation, constituting their underlying nature."[320] However, the *arūpā jhanas* themselves apparently did not seem sufficient to play the role of the final stages of the meditative path. Perhaps owing to canonical emphasis on the sufficiency of the four *jhānas* for awakening, the four *lokuttara jhāna*, which bring about liberation in the same way that the canonical *jhānas* do, were added to conclude the meditative path.

---

[318] Erich Frauwallner, *Studies in Abhidharma Literature and the Origins of Buddhist Philosophical Systems*, p. 64-65

[319] i.e. meditations on the 8 *kasiṇani*, 8 *abhiāyatanāni*, 3 *vimokkhā*, 4 *brahmavihārā*, and 10 *asubhajhānāni*

[320] Erich Frauwallner, *Studies in Abhidharma Literature and the Origins of Buddhist Philosophical Systems*, p. 64

This striking development points to a significant divergence from the Nikāya tradition in the conception of meditation and its epistemic workings. What is particularly notable about this complex conceptual elaboration is that, despite the strong canonical emphasis on the soteriological efficacy of the original tetrad of mundane *jhānas*, the *Abhidhammic* approach does not allow them the status of primary units in its account of the meditative path -- that is to say, meditative states proper -- but rather relegates them to the secondary status of factors which accompany all forms of meditation. Again, it seems that this development is the result of increasing emphasis on representation in terms of hypostatized particulars rather than processes. As Alexander Piatigorsky remarks, within this system of thought, "'*what* was thought of or meditated upon was far more important than *how* something was thought of or meditated upon. The object of thinking prevailed over modes of thinking."[321] Naturally, then, from this perspective, the *ārūpa jhānas*, which are defined in terms which clearly define their content, are thought of as having conceptual primacy in the representational schema of the Buddhist epistemic-soteriologal path over the original tetrad of canonical *jhānas*, which are merely defined in terms couched in the language of mental refinement *qua* process. Thus, we can see that the *Abhidammic* shift in emphasis from "how" to "what" lead to a radical shift in its account of the meditative path. From this perspective, the epistemic-soteriological value of meditative development is presented as ultimately having less to do with the quality of one's

---

[321] Alexander Piatigorsky, *The Buddhist Philosophy of Thought*, p. 3

experience than the object of that experience, even if that object is something outside of the realm of ordinary perception.

3.2 DICHOTOMOUS VIEWS OF MEDITATION AND MIND IN EARLY CH'AN

Despite its characterization as the "Meditation School" in Chinese Buddhism, throughout its history, the Ch'an school has had a complicated, at times even adversarial, relationship with the practice and theory of meditation. Beyond common sectarian debates over the efficacies of certain types of meditation and the philosophies of mind they presuppose, there has been a long standing tension within Ch'an, dating back to the very beginnings of the school, between, on the one hand, the usefulness of contemplative practice as a means towards awakening and, on the other, central doctrines of the school which seem to undermine both the usefulness of meditative practice and the possibility of the communication of proper practical methods.[322]

Historically, the most prominent manifestation of this tension occurred in the eighth century, when, under the influence of the rising prominence of the "sudden enlightenment" doctrine promoted by the Ch'an "Southern School", Ch'an doctrines seen as antithetical to

---

[322] Carl Bielefeldt, "Ch'ang-lu Tsung-tse's Tso-Chan I and the "Secret" of Zen Meditation," pp. 129-130, 143-144

worldly practice were taken to their extreme, giving rise to a distinctly critical stance towards meditation which resulted in a conspicuous silence regarding the practice.[323] In the minds of many, the practice of meditation, or any gradual practice at all, came to represent a philosophy of mind at odds with strictly non-dualistic interpretations of Mahāyāna doctrine which denied the existence of mental afflictions.

3.2.1 DOCTRINAL ROOTS OF THE MEDITATION DEBATE

While the Ch'an tradition had from the beginning placed emphasis on the importance of meditation practice, a number of the school's doctrines could be taken as – and, indeed, have been seen at times throughout history as – oppositional to any kind of practice aimed at mental purification. Of these, the concepts surrounding a radically non-dualist interpretation of the doctrines of emptiness and the originally pure mind stand out as the crucial factors contributing to the eighth century "Southern School's" critical, even disparaging, stance towards meditation.[324]

As we shall see, this very set of doctrines, which formed the core of the philosophical basis for the Southern School's "sudden enlightenment" theory, also constituted the central doctrinal support for their antagonism towards contemplative practice. Thus, the practice of

[323] *Ibid*., pp. 143-144
[324] *Ibid*., pp. 143-144

meditation, a long time staple of the Ch'an tradition even up until the time of the rise of a self-defined "Southern School," became a central point of contention within the oft cited eighth century "sudden-gradual debates" between the Southern School and their meditation-focused counterparts within the Ch'an school, to whom they assigned the polemical sectarian appellation "the Northern School."[325]

In order to understand the philosophical roots of the Ch'an Southern School's "sudden enlightenment" view, we can examine early examples of analogous reasoning underlying the T'ien-tai concept of a "perfect sudden" practice rooted in the "single true aspect" doctrine. In T'ien-tai thought, the "single true aspect" comprises the highest form of Buddhist thought and practice in which all dichotomies are subject to a radical non-duality which renders them, and all other phenomena, non-existent in light of the Ultimate Reality of the Middle Way.[326] Further, the doctrine of Buddha Nature provided that this ultimate reality was immediately accessible to the mind, which was held to be inherently pure. Thus, in T'ient-tai thought, the very distinctions which form the rationale for practice-based spiritual progress – ignorance and enlightenment, *saṃsara* and *nirvāna*, false and correct views, the mundane and the supramundane, and even earlier and later stages of the path are denied at the highest level,[327]

---

[325] *Ibid*., pp. 143-144
[326] Paul L. Swanson, *The Great Calming and Contemplation (Mo-ho Chih-kuan)*, pp. 21-22
[327] *Ibid.*, pp. 21-22

undermining the theoretical impetus for gradualistic spiritual practice.[328] Therefore, the T'ien-t'ai system takes as its highest practice "perfect sudden" practice, which avoids the dualities at the root of gradual practices by rooting itself in the instantaneous and direct apprehension of the ultimate truth "from the beginning" by taking the ultimate reality of the *dharmādatu* as its object.[329]

The Southern School of Ch'an would come to follow similar reasoning as that of the T'ien-t'ai school, deducing from a radically non-dualistic ontology the necessity of an instantaneous practice rooted in the direct apprehension of ultimate reality.[330] It is plain to see how the combination of the doctrines of emptiness, Buddha Nature, and non-duality would lead directly to the espousal of such a concept regarding practice. First, the denial of the distinction between purity and impurity, as well as any other dichotomies associated with them or the path between the two, renders any obstacles between the practitioner and their "goal state" non-existent, empty in the light of the ultimate reality of the Middle Way. Thus, in the thought of those who maintain this extreme interpretation of the non-duality theory, the intrinsically pure mind is pure to the point that it has immediate direct access to ultimate reality without any obstacles whatsoever.[331] Second, the denial of the distinction between earlier and later stages of the path implies that the realization of ultimate reality must occur atemporally,

---

[328] Carl Bielefeldt, "Ch'ang-lu Tsung-tse's Tso-Chan I and the "Secret" of Zen Meditation," p. 143
[329] Paul L. Swanson, *The Great Calming and Contemplation (Mo-ho Chih-kuan),* p. 21
[330] Carl Bielefeldt, "Ch'ang-lu Tsung-tse's Tso-Chan I and the "Secret" of Zen Meditation," p. 143
[331] Paul Demieville, "The Mirror of the Mind," p. 15

immediately, “all at once” in a revolutionary intuitive grasping of the absolute outside of temporal conditions – that is, in short – “suddenly.”[332] Thus, for both the T’ien-t’ai School and the Southern School of Ch’an, the “sudden” aspect unique to their doctrines was not simply the concept of the suddenness of the “enlightenment moment,” which was not disputed by those considered to be representative of the so-called “Northern School,[333] but the doctrine of a sudden atemporal path to enlightenment.

However, the sudden doctrines of the T’ien-t’ai School and the Southern School of Ch’an led to different stances towards meditation, and practice in general, in each respective school. While the T’ien-t’ai system’s simultaneous embrace of the *prima facie* contradictory views that, one, ultimate reality is immediately available to the originally pure mind and that, two, serious training is nonetheless still required allowed it to at once support both the “one Buddha vehicle” doctrine and prescriptions for *upāya* (expedient means), the Southern School of Ch’an was more obstinate in its dealings with this doctrinal dilemma.

Following the shift in doctrinal focus within Ch’an from the Lankāvatāra Sūtra to the Perfection of Wisdom sutras which the southern school promoted,[334] the Southern School adamantly staked its doctrinal interpretation in the uncompromised cardinal principle (*ti-i i*) of phenomenal emptiness and ultimate non-duality of *Prajñāpāramitā* doctrine, leading it to reject

---

[332] *Ibid.*, p. 15
[333] Heinrich Dumoulin, *Zen Buddhism: A History, Part 1: India and China,* p. 330
[334] John McRae, “Yanagida Seizan's Landmark Works on Chinese Ch'an,” p. 66

all forms of *upāya* which sought to overcome what it saw as fundamentally unreal from the start.[335] Thus, within the Southern School, upaya came to be thought of as being constituted in not those practices which supplied a means towards enlightenment, but those which were manifested as a function of enlightenment. Accordingly, the Southern School rejected meditation as a gradualistic practice and, with its rise to prominence, ushered in an era of silence regarding the details of the practice.

In the mind of the eighth century Southern School polemicist, Shen-hui, it was these very concepts which were misunderstood by what he termed the "Northern School," which he saw as lesser group focused on a weaker doctrinal interpretation based on the gradual practice of meditation. In many ways, the concept of the Northern School is a production of Shen-hui's own mind. Neither conceiving of themselves as a separate school[336] or referring to themselves as the "Northern School," the targets of Shen-hui's attack most likely thought of themselves simply as inheritors of the so-called "East Mountain" tradition of the third and fourth patriarchs, Daoxin and Hongren.[337] Nevertheless, the concept would come to the fore in Shen-hui's infamous 8th century attack on the Northern School at the Great Dharma Assembly of Hua-t'ai, and from then on form a central distinction in the Ch'an schools self-idealization of its

---

[335] Carl Bielefeldt, "Ch'ang-lu Tsung-tse's Tso-Chan I and the "Secret" of Zen Meditation," p. 143
[336]Heinrich Dumoulin, *Zen Buddhism: A History, Part 1: India and China,* p. 113
[337]John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, pp. 8-9

history. Thus, for our purposes, it is important to note, following McCrae,[338] that the characterization and the very concept of the Northern School presented here does not refer to directly to an *actual* school and lineage within Ch'an, but to the *image* of a school presented within Shen-hui's writings and the *Platform Sutra* which plaid a prominent role in the future mythologized self-conception of the Ch'an school's history.

In Shen-hui's representation, the Northern School was a sect of the Ch'an school centered around and paradigmatically represented by the teachings of Shen-hsiu. Thus, it is the teachings of Shen-hui and his disciples, P'u-chi and Hsiang-mo Tsan which are the focus of his critique. According to Shen-hui, the gradual *dhyāna* practice of P'u-chi and his fellow students of Shen-hsiu, which he characterized as a four stage process of concentrating, settling, arousing the insight within, and controlling the mind was a "foolish" practice which constituted a "hindrance to enlightenment."[339] On Shen-Hui's view, such a practice contradicted the teachings of the *Vimalikīrti Sutra*, in which Vimalikīriti scolds Sāriputra for sitting in meditation. In the passage he refers to, it is stated that:

> "To sit is not necessarily to meditate. […] Not to rise up from concentration in which the inner functions are extinguished and yet to conduct oneself worthily, that is meditation. Not to abandon the way of the teaching and yet to go about one's business as usual in the world, that is meditation. […] Not to allow oneself to be bother about all sorts of possible bad intentions but rather to practice the

---

[338] *Ibid*., p. 9

[339] Hu Shih, "Ch'an (Zen) Buddhism in China Its History and Method," p.7, and Heinrich Dumoulin, *Zen Buddhism: A History, Part 1: India and China,* p. 113

> thirty-seven aids to enlightenment, that is medtiation. Not to cut [off] disturbances and yet to enter nirvāṇa, that is meditation."[340]

This passage offers both support for the Southern School's rejection of meditative practice and the concept of an obscured mind which underlied it, as well as a basis for its radical interpretation of *upāya.* Here we see meditation being defined in a way which is strictly opposed to the sort of control of mental imperfections attributed to the Northern School's practice, and more focused on the embodiment of daily actions through ones continued concentrative insight. Thus, Shen-hui concludes that gradual practice – including, most importantly, the meditative practice of the Northern School -- is antithetical to the Ch'an traditions teachings, stating that, "Our masters have all taken hold of enlightenment at a single stroke without any talks of steps or progression."[341] In Shen-hui's view, "to have no thoughts is meditation-sitting, and to see one's original nature is *dhyāna.*"[342]

Of course, Shen-hui's characterization of the distinction between the doctrines of the so-called Northern-School and Southern school was a distorted and exaggerated one, perhaps driven by his own interest in being recognized as the Seventh Patriarch. In actuality, the very criticisms which Shen-hui leveled against the doctrines held by the "Northern School" were restatements of ideas first developed by "Northern School" thinkers.[343] As Yanagida Seizen

[340] Heinrich Dumoulin, *Zen Buddhism: A History, Part 1: India and China,* p. 50
[341] Heinrich Dumoulin, *Zen Buddhism: A History, Part 1: India and China,* p. 113
[342] Hu Shih, "Ch'an (Zen) Buddhism in China Its History and Method," p.7
[343] John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, p. 241

potently puts it, "The Southern School is predicated on the Northern School. Without the Northern School there could not have been any Southern School."[344] For example, the concept of the non-existence of mental impurities due to the non-duality of the pure and defiled mind, the very concept which underlies Shen-hui's critique of the Northern School, is already attested to quite clearly in the *Ta-ch'eng pei-tsun lun* (Treatise of the Northern line of the Mahāyāna), a Northern School text, where it is stated, "I do not give rise to a mind which is genuine and true; How much less to an inverted mind [which incorrectly understands the nature of what is]? I do not even give rise to a mind of Enlightenment; How much less to a mind of defilement?"[345]

Further, Shen-hsiu himself, in his *Yuan-ming lun*, makes points regarding the sudden teaching which are practically identical to those associated with the Southern School. The *Yuan-ming lun* rejects interpreting the proper sudden practice as the elimination of false thoughts as a facile and superficial understanding, promoting instead the practice of the sudden comprehension of the insubstantiality of body and mind.[346] While the *Yuan-ming lun* allows for gradual progress, it is only within the context of the more fundamentally significant recognition of one's present inner perfection. In Shen-hsui's thought, it is the recognition of this innate purity, and the ultimate non-existence of its defilements, which constitutes the impetus for the

---

344 Quoted in John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, p. 338
345 Robert B. Zeuschner, "The Understanding of Mind in the Northern Line of Ch'an (Zen)," p. 74
346 John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, pp. 211-212

initiation of a constant practice which maintains this purity.[347] Thus, Shen-hsiu's actual stance towards mental defilements does not, as the Southern School took it to, entail their existence or promote their gradual removal as the highest level of practice. Rather, it takes the ultimate emptiness of defilements as a presupposition in its promotion of constant practice of maintenance of the mind's inherent purity. In many ways, then, the doctrines promoted by Shen-hsui are more similar to Shen-hui's than not.

Thus, it should not come as a surprise that the doctrines of the two schools were seen by many to be indistinguishable. Indeed, Ch'eng-kuan (732-820), a Hua-yen monk, perhaps under the influence of the Ox-head school monk An-juo Hsuan-t'ing felt that there was no substantial difference between the schools.[348] Perhaps even more strikingly, the disciple Ch'ung-yüan, who represented the Northern School in the Great Dharma Assembly in which Shen-hui made his famous attacks on the school, replied to Shen-hui's accusations, "Do not both Zen masters Hui-neng and Shen-Hsiu originally come from the same school? And since they are fellow students, would not their Zen style be the same?"[349] In his monumental work on the history and doctrine of the Ch'an School, John McRae argues that the mistaken impression of some doctrinal distinction between the "schools" may have arisen due to certain teachings of early Ch'an

---

[347] *Ibid.*, p. 245
[348]*Ibid.*, p. 241
[349] Heinrich Dumoulin, *Zen Buddhism: A History, Part 1: India and China,* p. 113

masters being taken out of context.[350] He states that frequent exhortations to greater effort, references to the constancy of practice, and the tendency of Northern School texts to use seemingly sequential rhetoric may have created the appearance of an elementary notion of gradual self-perfection, even though the Northern School's doctrines themselves were in actuality based on perfect or sudden non-sequential thought.

Clearly, then, the distinctions between the Northern and Southern schools were based on largely exaggerated misperceptions by Shen-hui and those who followed him. However, it is not the actuality of the history of the Ch'an school which is of importance to us here, as it is the school's own view of its history which would form its contemporaneous and future texts and doctrines. Founded in fact or not, it is of crucial importance to understand the Ch'an schools perception of its supposed factions as representations of internal doctrinal conflicts in order to understand how those doctrinal ambiguities effected its practices.

For the Ch'an school of the eighth century and beyond, regardless of actual fact, the Northern School and Southern School came to represent two fundamentally incompatible philosophies of mind founded within disparate interpretations of earlier Ch'an doctrine and the praxical-philosophical consequences they entailed. The Northern School came to represent the "Buddha-nature obscured" model of mind,[351] in which practice consisted of continued effort

---

[350] John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, p. 245
[351] Carl Bielefeldt, "Ch'ang-lu Tsung-tse's Tso-Chan I and the "Secret" of Zen Meditation," p. 143

towards the removal of imperfections and obscurations in order to allow the original purity of the mind to "shine through." On this view, mental defilements such as conceptualization, judgment, subject-object distinctions, hate, craving, and the conceptual categorization of perception[352] were to be removed through a gradual process of moral, devotional, and meditative practices.[353] In contrast, as alluded to above, the Southern School came to be associated with a view of the mind which interpreted the concept of the intrinsic purity of mind to include even the thoughts which arose within it, therefore rejecting the actual existence of such mental defilements. On this basis, gradual practices were rejected in favor of a practice rooted in the direct and instantaneous apprehension of the ultimate truth.

It is these perceived praxical-philosophical distinctions which would come to the forefront in the famous "mind-verses" of Shen-hsiu and Huineng within the *Platform Sutra*. In Shen-hsiu's verse, the metaphor of polishing a mirror to keep it free of dust is analogous to the model of mind in which defilements are to be removed in order to reveal the inherent purity of the mind. As we have seen, in line with Shen-hsiu's other writings it seems most accurate to interpret this "polishing" as a constant process of maintaining the purity of the mind which, in actual fact, pre-supposes the emptiness of its defilements;[354] however, in the mind of the Southern School, Shen-hsiu's verse typified the "Buddha nature obscured" view of mind and

---

[352] Robert B. Zeuschner, "The Understanding of Mind in the Northern Line of Ch'an (Zen)," p. 69
[353] Paul Demieville, "The Mirror of the Mind," p. 15
[354] John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, p. 236

the gradual practice that it entailed. On the other hand, Huineng's verse, which denies the existence of any dust, was thought of as corresponding to a philosophy of mind which rejected the existence of any mental defilement.

While it is clear that the Southern School took this interpretation of the nature of the mind to be in opposition to gradual practices, and therefore to meditation, the concepts which underlie the Southern School's sudden doctrine have not always been seen as antithetical to meditative practice. In fact, the concepts of non-duality, the original purity of the mind, and the emptiness of phenomena have existed harmoniously with the practice of meditation within the thought of Ch'an thinkers and masters since the very beginnings of the school. Thus, interestingly, we can see the roots of the ideals and practices promoted by both the so-called Southern and Northern schools simultaneously present in the thought of the first patriarchs of the Ch'an school.

Even as far back as the teachings of Bodhidharma, the First Patriarch of the Ch'an School, we can see the latent seeds of the doctrinal dichotomies which would eventually come to an ultimate climactic clash in the 8th century sudden-gradual debate. The clearest indication we have of the doctrines and practices promoted by Bodhidharma are found in the *Erh-ju ssu-hsin lun (Treatise on the Two Entrances and the Four Practices,* herafter *EJSHL*), the only extant

work attributed to Bodhidharma which appears to have legitimacy.[355] While it is not clear if Bodhidharma himself actually penned the text himself, it is generally agreed that the text can be considered an accurate representation of Bodhidharma's teachings. While the language of the *EJSHL* is so terse as to preclude any definitive statement of its meaning, we can at least recognize within it some key themes which would influence subsequent developments within the Ch'an school.

Within the *EJSHL*, we find multiple aspects of Bodhidharma's teachings which could be construed as supportive of the views associated with both the Northern School and the Southern School. First, Bodhidharma's teaching in the *EJSHL* is divided into two ways of entering into enlightenment, "the entrance of principle" and "the entrance of practice." We can see elements of the descriptions of both of these routes which could be construed as supportive of the praxical-philosophical doctrines associated with both the Northern and Southern schools.

The *EJSHL* describes the method of "entrance of principle" as having such a profound faith in the one True Nature of all sentient beings that one abandons the false perceptions which cover it up and make it imperceptible. The text explains:

"[One must have a] profound faith in [the fact that] one and same True Nature is possessed of all sentient beings, both ordinary and enlightened, and that this [True Nature] is only covered

---

[355] John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, p. 101

up and made imperceptible [in the case of ordinary people] by false sense impressions. If one discards the false and takes refuge in the True, one resides frozen in 'wall contemplation' (*pi-kuan)* [in which] self and other, ordinary person and sage, are one and the same; one resides fixedly without wavering, never again to be swayed by written teachings. To be thus mysteriously identified with the [True Principle], to be without discrimination, serene and inactive: This is called the entrance of principle."[356]

In this passage we find all of the doctrinal elements which would form the basis of the reasoning for the Southern School's sudden doctrine: non-duality, the actual non-existence of defilements, and the originally pure nature of the mind. Still, of course, it is not clear if the *EJSHL* presents the image of a mind in the form of the "Buddha-nature obscured" view associated with the gradual teaching, or the view which rejects defilements associated with the sudden teaching. Yanagida Seizan, placing emphasis on the word *tan*, "only," in the *EJSHL*'s reference to false sense impressions, argues that these sense impressions are to be interpreted as having less significance than the True Nature that they obscure.[357] This point, taken in conjunction with the text's denial of any ultimate distinction between the "ordinary person" and the "sage" or the individual self and the "True Principle," seems to provide legitimate support for an interpretation of the text in terms of the "non-defiled" model of mind associated

---

[356] John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, p. 103
[357] *Ibid.*, p. 111

with the Southern School. However, this fact does not preclude the possibility of an interpretation of the text based on a "mind-obscured" philosophy of mind due to its description of one's True Nature as being "covered up and made imperceptible" by false sense impressions.

The ambiguity of the doctrines presented in the "entrance of principle" portion of the *EJSHL* is further exacerbated by the trouble of clearly discerning the meaning of the term *pi-kuan*, or "wall contemplation." Both historical and modern interpretations of this term have been widely varied.[358] T'an-lin's preface to the *EJSHL* describes *pi-kuan* as Bodhidharma's method of "pacification of the mind" (*an-hsin),* one of the most common terms for spiritual endeavor and meditation practice in early Ch'an. If this is indeed the meaning of the term, then we find here a promotion of the very kind of meditative practice rejected by the Southern School. However, there have been varying interpretations of the term, mainly based on readings of the term as meaning "contemplating like a wall" or "a wall contemplating," which may be more in line with the Southern School interpretation. For example, Yanagida Seizan has interpreted the term to denote a sort of witnessing of the world with the steadfast detachment of a wall in which one "gazes intently at a vibrantly alive *śunyatā*."[359] This interpretation of the term would imply a sort of meditative concentrative which relies on an already-arisen profound understanding of saṁsara, a kind of practice which would not contradict the Southern School's

---

[358] John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, p. 113
[359] *Ibid.*, pp. 114-115

conception of *upāya* as an enacted function of enlightenment. Thus, we can see how, in the eyes of later Ch'an thinkers and practitioners, the *EJSHL's* teaching of the entrance to practice through principle could be construed as supportive of the views of meditation and mind associated with both the Northern and Southern schools.

The entrance of practice, as described in the *EJSHL*, consists in four practices: the "retributions of enmity," the "acceptance of circumstances," the "absence of craving," and the "accordance of the Dharma."[360] There are many reasons that this route of practice might be interpreted as a gradual one. First and foremost, the very idea that there are practices which need to be done with the aim of spiritual advancement seems to presuppose the dualisms inherent in the gradual teaching. This can be seen very clearly in the description of the first practice, the retribution of enmity, in which it is stated, "When you react to events in this fashion, you can be in accord with the [Absolute] Principle as you progress upon the path [toward enlightenment]."[361] Quite clearly, these practices take place in a gradual framework. Secondly, the four practices themselves are arranged in a sequential progression of increasingly profound levels of non-attachment.[362] This progression begins with the acceptance of suffering, continues into the rejection of craving, and culminates with a thorough understanding of nonsubstantiality.

---

[360] John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, pp. 103-104
[361] *Ibid.*, p. 103
[362] *Ibid.*, p. 109

Still, it is quite possible that the *EJSHL's* gradual teaching of the entrance to the path through practice could be conceived of in terms which were compatible with the later sudden doctrine. For example, one might conceive of the entrance through practice as a path for those of lesser spiritual ability, a complementary path to the higher sudden teaching of the entrance through principle. Such a multi-leveled presentation of spiritual practice was quite common in the spiritual doctrines of many later Chinese Buddhist thinkers, such as Zhiyi, Zongmi, and Shen-hsiu. The last passage of the text might be taken as support for such a stance: "To eradicate wrong thoughts and practice the six perfections—but while being without any 'practice'—this is the practice of accordance with the Dharma."[363] An interpretation in line with the sudden teaching would likely take this statement as a demonstration of the ultimate nonsubstantiality of any of the four practices given in the *EJSHL*, taking the view that those practices and the obstacles they served to overcome were actually non-existent from the beginning. Thus, as in the case of the first entrance of principle, the second entrance of practice is concise to the point that it can be construed as offering support to interpretations consistent with both sudden and gradual views.

While the dormant seeds of the eighth century split in the Ch'an school can be seen roughly in Bodhidharma's work, the distinct and contradictory teachings which would eventually form the basis for the dichotomous views of mind and meditation in the Ch'an

---

[363] John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, p. 105

school were even further solidified in the teachings of the East Mountain school. It is in the teachings of Daoxin and Hongren which we find both the detailed and explicit teachings of meditation which would shape the practice of the Northern School and, simultaneously, the doctrines which, in the hands of the Southern School, would be used to prove the practice problematic.[364] It is no wonder then, that both schools traced their teachings back to these influential teachers.

We find within the teachings of Daoxin simultaneous support for both sudden and gradual views. In the *Ju-tao an-hsin yao fang-pien fa-men* (*Fundamental Expedient Teachings for Reposing the Mind That Attains Enlightenment*, herafter *JTFM*), the only text available to us today which we can reliably attribute to Daoxin, we find a distinct focus on an extended practice rooted in expedient means, especially meditation. However, simultaneously, and even sometimes within the range of a few lines of teachings which appear gradualistic, there are also a number of passages which either provide explicit support for the sudden view, or at least support for the doctrinal roots of the sudden teaching. Daoxin's teaching in many ways represents a harmonious coexistence of the views where were eventually force-fit into a strict dichotomy in the polemical climate of 8th century Ch'an.

Primarily, as evidenced by the title, the *JTFM* is a guide to a protracted practice of expedient means which leads to enlightenment. That is, it is very clearly, in its most basic form,

---

[364] Carl Bielefeldt, "Ch'ang-lu Tsung-tse's Tso-Chan I and the "Secret" of Zen Meditation," pp. 139

based on a gradualistic model in which *upāya* is conceived of as a means towards the goal of enlightenment, not as a result of it.[365] The *JTFM* thus provides a number of practices which function as expedient aids towards enlightenment, including recitation of the name of the Buddha,[366] a meditation on the emptiness and non-duality of all phenomena,[367] and a sitting meditation which leads to identification with the original mind.[368]

Of primary importance within the model presented within the *JTFM* is the practice of meditation. In fact, Daoxin's guide offers the first example of a Ch'an description of meditation technique in history, a kind of literature which would, as we shall see, be outright rejected by the Southern School in later times. The gradualistic tendencies within the *JTFM's* meditation teachings are presented quite unambiguously:

> "Constantly watch any clinging to objectified phenemona, or any conceptualizing, or any false consciousness, or [false] thinking, or scattered ideas. If this chaotic mind does not arise, it means that you calm down those coarse mental activities. If you achieve a calm mind (*chu-hsin*) and do not have the mind which clings to objective phenomena, then your mind gradually becomes tranquil and stable and step by step eliminates the various passions."[369]

With its use of the term *suifen* 隨分, translated above as *gradually* and *step by step*, and its focus on *zhuxin* 住心, calming of the mind, this passage demonstrates the precise sort of practice

---

365 Heinrich Dumoulin, *Zen Buddhism: A History, Part 1: India and China,* p. 313
366 David W. Chappell, "The Teachings of the Fourth Ch'an Patriarch Tao-hsin (580-651)," p. 108
367 *Ibid.*, pp. 112, 117
368 *Ibid.*, p. 119
369 David W. Chappell, "The Teachings of the Fourth Ch'an Patriarch Tao-hsin (580-651)," p. 118

so strongly condemned by the Southern School as being based on a doctrine which, with its admittance of the existence of mental afflictions, didn't adequately account for the innate purity of the mind.[370]

In actual fact, while this passage seems to be entirely predicated on a "Buddha-nature obscured" view of the mind, it is more accurately conceived of as being based on a middle way view of the mind in which the conventionally apparent defilements in the mind are ultimately empty. In the portion directly preceding the passage quoted above, the text instructs the reader:

> "And again, if your mind attaches itself to devious phenomena [when sitting in meditation?], the moment when you realize this occurring then immediately concentrate on [the fact that] the *place* where it arises ultimately does not come into being. When this mind does begin to attach itself, it does not come from [any place in] the ten directions and when it goes there is no place at which it arrives."[371]

Thus, we can view Daoxin's teachings as existing in a sort of middle ground between the sectarian extremes of slanted eighth century doctrinal interpretations. In all actuality, Daoxin's teachings allow for both sudden and gradual paths, depending on the "capacities and conditions" of the practitioner.[372] However, in the mind of eighth century thinkers with sectarian agendas or pre-conceived notions of the true "One Vehicle", this kind of balanced reading of the text was highly unlikely.

---

370 Heinrich Dumoulin, *Zen Buddhism: A History, Part 1: India and China,* p. 312
371 David W. Chappell, "The Teachings of the Fourth Ch'an Patriarch Tao-hsin (580-651)," p. 118
372 David W. Chappell, "The Teachings of the Fourth Ch'an Patriarch Tao-hsin (580-651)," p. 110

Indeed, the *JTFM*, despite its distinct focus on expedient means and meditation, provides a good deal of fuel for the fire of sectarian interpretation in line with the sudden doctrine. Directly before Daoxin's statement that different practitioners require different amounts of time to attain enlightenment, he explains the method for attaining enlightenment in the following terms:

> "Neither by [trying to] meditate on the Buddha, nor by [trying to] grab hold of the mind, nor by seeing the mind, nor by analyzing the mind, nor by reflection, nor by discernment, nor by dispersing confusion, but through identification with the natural rhythms of things. Don't force anything to go. Don't force anything to stay. Finally abiding in the one sole purity, the mind spontaneously becomes lucid and pure."[373]

This passage appears to describe proper practice in terms highly compatible with those of Shen-hui, who scoffed at efforts to control the mind in his support of a spontaneous view of enlightenment. The correlation between this stance towards meditation and a tacit endorsement of a "defilement free" model of mind are clear. Thus, the passage gives the initial appearance of being entirely in line with the whole of the Southern Schools praxical-philosophical stance. Of course, any honest attempt to fairly interpret this passage in a strictly subitist manner is complicated by the passage following immediately thereafter, which stresses that some may require years of practice in order to overcome defiled thoughts or actions. Still, especially given the subsequent and repeated focus on the conjunction of *Prajñāpāramitā* doctrine, emptiness,

[373] *Ibid.*, p. 110

non-duality, the originally pure mind, and the spontaneous opening of the "Dharma Eye,"[374] it is not hard to imagine how Daoxin's teaching could be interpreted in "sudden" terms. Thus, it is quite comprehensible that the teachings of Daoxin could simultaneously provide the basis for a gradualist doctrine rooted in meditation and a sudden doctrine which rejected it.

The case regarding Hongren, the Fifth Patriarch and the teacher of both Shen-hsiu and Huineng, is largely the same. The best indicator of the teachings of Hongren we have available to us today is a transcription of his teachings compiled by his disciples and entitled *Hsiu-hsin you lun* (*Treatise on the Essentials of Cultivating the Mind*, herafter *HYL*). In this text we find, as we do in the *JTFM*, a view of the mind which takes a middle way between the two extremes of the "Buddha-nature obscured" view and the "non-defiled mind" view, and a distinct emphasis on the importance of meditative practice for the attainment of enlightenment. Further, we find explicit descriptions of meditation methods simultaneously present within the text with all the doctrinal roots which would form the Southern School's rejection of meditative practice.

While the text makes very clear references to a theory of mind which admits the existence of defilements, its distinct and repeated stress on the ultimate non-arising of false thoughts indicate a more moderate view of mind which could support philosophies of mind presupposed by both sudden and gradual theories of enlightenment. The text begins with a very clear statement of a "Buddha-nature obscured" model of mind:

---

[374] David W. Chappell, "The Teachings of the Fourth Ch'an Patriarch Tao-hsin (580-651)," p. 112-113

> "The sun's light is not destroyed, but merely deflected by the clouds and mists. The pure mind possessed by all sentient beings is also like this, in simply being covered by the layered clouds of discriminative thinking, false thoughts, and ascriptive views. If one can just distinctly maintain [awareness of] the mind (*shou-hsin*) and not produce false thoughts, then the Dharma sun of nirvāṇa will be naturally manifested. Therefore, it is known that one's own mind is inherently pure."[375]

This statement appears to offer unabashed support for a theory of mind which presuppose its obscuration by mental defilements in terms remarkably similar to those later attributed to Shen-hsiu in the *Platform Sutra*. However, such an interpretation cannot be made conclusively without looking at the range of evidence throughout the rest of the text. A study of the full extent of the text reveals a definite and pervasive stress on the ultimate non-arising of such defilements. Indeed, it is repeated a total of nine times throughout the text that the enlightened mind does not generate false thoughts.[376] Thus, as with the *JTFM*, it appears that the *HYL* contains a middle-way attitude towards mental defilements which could be taken to support philosophies of mind associated with both the Northern and Southern schools.

The *HYL* also shares with the *JTFM* strong encouragement for the practice of meditation, including detailed descriptions of the characteristics of the practice. Hongren's teaching consists of two methods: one which consists mainly in maintaining continuous visualization of a sun,[377] and another which is based on observing the movements of one's mind until "until its

---

[375] John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, p. 122
[376] *Ibid.*, pp. 123, 315 (note 60)
[377] *Ibid.*, p. 127

fluctuations dissolve into tranquility."[378] What is interesting about the descriptions of these practices is that they are detailed to the point of even describing the proper bodily posture which is to be taken for the practice, a blatant contradiction of the Southern School's concept of a proper practice rooted in the attributeless, and therefore indescribable, uncompromised cardinal principle (*ti-i i*) of the *Prajñāpāramitā*.[379]

However, perhaps even more interestingly, the *HYL*, like the *JTFM*, also stresses the very doctrines which would later form the basis for such a rejection of meditative practice within the Southern School. We can see these concepts being described in conjunction in reply to a question which seems in many ways to get to the heart of the issue of non-duality, Buddha-nature, and the apparent existence of delusions:

> "[You say that] the suchlike Dharma Nature [is embodied by both sentient beings and the Buddhas] identically and without dualities. Therefore, [if one group] is deluded, both should be deluded. If [one group] is enlightened, both should be enlightened. Why are only the Buddhas enlightened, while sentient beings are deluded?"[380]

Indeed, the question points directly to the very heart of the sudden-gradual debate. If we are to accept both the doctrines of the inherent purity of the mind and of non-duality, why is it that everyone isn't already enlightened? The Southern Schools answers the question with its sudden doctrine: enlightenment is immediately available to all sentient beings in any moment,

---

[378] *Ibid.*, p. 130
[379] Carl Bielefeldt, "Ch'ang-lu Tsung-tse's Tso-Chan I and the "Secret" of Zen Meditation," p. 143
[380] John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, p. 124

and any impediment is actually non-existent. Hongren's answer is more moderate, but is still only a step away from the radical interpretation of the Southern School. He states that this portion of the teaching is inconceivable to the ordinary mind, which has lost awareness of its True Nature. Because it cannot be definitively explained, one should simply "rely on the ultimate truth and maintain awareness of your True Mind."[381] He goes on:

Therefore, the Vilakakīrti Sūtra says: '[*Dharmas* have no Self Nature and no Other Nature. *Dharmas* were fundamentally not generated [in the first place] and are not now extinguished' Enlightenment is to transcend the two extremes and enter into non-discriminating wisdom. If you understand this doctrine, then during all your activities you should simply maintain awarenss of your fundamental Pure Mind. Do this constantly and fixedly, without generating false thoughts of illusion of personal possession. Enlightenment will thus occur of itself."[382]

This can be taken as a restatement of the middle-way approach described above: while on the conventional level perceived by the unenlightened mind there appears to be both delusions and a distinction between the enlightened and the unenlightened, ultimately neither can be said to exist. This ultimate truth is simply inconceivable to the unenlightened mind. Still, it is plain to see how this argumentation sets the stage for the later argumentation of the

---

[381] *Ibid.*, p. 124
[382] John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, p. 124

Southern School. The idea that the ultimate truth is inconceivable to the "ordinary person" still presupposes the existence of an actual dichotomy between delusion and enlightenment. If one takes the concept of non-duality to its logical extreme, as later thinkers did, one is forced to deny such a distinction, leaving the concept of the immediate availability of one's enlightened mind unhindered by any delusions as the only plausible stance to be taken with regards to the mind.

Of course, the results of the logical extremes of these doctrines were not seen as contradictory or incompatible with meditation practice within the early Ch'an School, and in fact existed concurrently and quite harmoniously within the doctrinal makeup of the school. It was not until these potentially conflicting doctrines were teased out, placed oppositionally, and represented as opposing views held by distinct schools that they began to be taken, at least to some, as two distinct modes of thought.

The beginnings of this divisive view of Ch'an doctrine can be traced back to Shen-hui, a disciple of both Shen-hsiu and Huineng, and his 732 attack on what he termed the "Northern School" of Ch'an at the "Great Dharma Assembly of Hua-t'ai."[383] It was at this assembly where Shen-hui launched his critique of what he claimed to be the Northern School's gradualist teaching and unrightful claim to the patriarchate, inscribing the perceived division between the Northern School and Southern school's teachings permanently in all Ch'an histories to come. It

[383] Heinrich Dumoulin, *Zen Buddhism: A History, Part 1: India and China,* p. 112

was within the context of this division that the *Platform Sutra of the Sixth Patriarch* was devised and Huineng, Shen-hui's master, was "elevated to the stature of the Zen master par excellence," usurping – at least in the minds of many – Shen-hsiu's historical recognition as the Sixth Patriarch of the Ch'an school. [384]

3.2.2 HISTORICAL IMPACT

Despite the nominal deep-rooted debates which the varying doctrinal interpretations treated here spawned, it is not clear to what extent they affected the history of the Ch'an school in substance. While most early scholarship on the subject suggested that Shen-hui's attacks on the Northern School were the primary cause of the eventual decline of the "school" and the doctrines associated with it, more recent study of Dunhuang manuscripts not associated with the Southern School indicates that this was certainly not the case.[385] While Shen-hui's attacks on the Northern School appear to have continued more or less consistently until his death in 758, what came to be considered the Northern School continued to grow until it reached its peak in the 770s, with its members continuing to make doctrinal contributions at least until the end of the eighth century.[386] Further, as mentioned above, the doctrinal differences presented as distinct and oppositional views in the context of the Northern-Southern dichotomy were not

[384] *Ibid.*, p. 137
[385] *Ibid.*, p. 329
[386] John McRae, *The Northern School and the Formation of Early Ch'an Buddhism*, p. 240

universally accepted as such. This fact casts doubt on the extensiveness of any actual effect this perceived split is often presumed to have had. In fact, we have no evidence to date which demonstrates that the doctrinal conflict in question existed anywhere outside of the minds of Shen-hui and his followers.[387]

Still, however, the fundamental importance of Shen-hui's arguments can be clearly observed when we shift our focus to the subsequent developments they brought about in the Ch'an school's retrospective image of its own history and identity. It is the perception of a rift brought about by Shen-hui, along with its denigration of the Northern School, which would form the basis for the elevation of Huineng and the *Platform Sutra* to the level of paradigmatic symbols of the classical Ch'an school. Indeed, if it weren't for Shen-hui's doings, Huineng and all that he came to represent likely would have faded into historical obscurity,[388] overshadowed by the mainstream legitimacy bestowed upon Shen-hsiu and his followers by court endorsement and widespread recognition.

In the end, however, the perceived rift brought about by Shen-hui would ultimately drive Huineng to historical prominence, albeit twenty years after his death, solidified in history as the emblematic "Sixth Patriarch."[389] It was the concept, promoted by Shen-hui in his attacks on the Northern School, that the Ch'an school persisted through a single line of transmission

---

[387] *Ibid.*, p. 246
[388] Heinrich Dumoulin, *Zen Buddhism: A History, Part 1: India and China,* p. 111
[389] *Ibid.*, p. 329

from patriarch to patriarch, which would form the school's conception of itself in terms of genealogical model governed by a singular mind-to-mind transmission from master to disciple, epitomized in the form of the Sixth Patriarch, who would come to represent the idealized image of the culmination of this process, and indeed the Ch'an school itself.[390] It is this view of the school, and its paradigmatic patriarch, which would solidify into the unitary self-image which the Ch'an school would take up in the eighth century and hold to as a defining factor in its self-ascribed history. Thus, regardless of potential doubts regarding the actual import of the Northern-Southern debates at the time of their occurrence, it is certain that they had distinct and lasting effects on the school's perception of its own doctrine and history.

Attempts to make a definitive statement as to the effects of these doctrinal disparities on the actual practices of the school are riddled with similar complexities and ambiguities. One the one hand, we find clear evidence of the taking up the philosophy of the sudden doctrine and the development of new practices in line with the thoery within future generations of the Ch'an school. However, on the other, it appears that these nominal praxical-philosophical shifts did not lead to any actual rejection of earlier forms of Ch'an meditation in reality.

Following in the wake of the newfound emphasis on sudden practice brought about by Shen-hui and embodied in the idealized image of Huineng and "his" *Platform Sutra*, Ch'an masters of the second half of the T'ang dynasty would turn their energies towards the creation

[390] Heinrich Dumoulin, *Zen Buddhism: A History, Part 1: India and China,* pp. 155-156, 332

of new and revolutionary techniques in line with the theory and doctrine of sudden enlightenment.[391] At least in the imagination of the tradition, the old methods of cultivation were superseded by new methods of inducing sudden enlightenment: beating and shouting, iconoclastic words and deeds, and spontaneous and enigmatic speech and.[392] However, in actuality, it is dubitable that the inheritors of the sudden doctrine rejected the traditional practice of seated meditation at all.

Indeed, the very masters attributed with the creation these revolutionary practices in their staunch rejection of formal meditation are shown in their biographies and records to have at least occasionally showed support for the practice, if not themselves engaging in or making accommodations for their disciples to engage in continued dedication to it.[393] Thus, as Ch'an scholar Carl Beliefeldt summarizes the situation, "It is probably safe to assume that, even as the masters labored to warn their disciples against fixed notions of Buddhist training, the monks were sitting with legs crossed and tongues pressed against their palates. But what they were doing had now become a family secret."[394] Therefore, taking all evidence into consideration, it appears that the Ch'an school's acceptance of the sudden doctrine and its praxical ramifications

---

[391] Carl Bielefeldt, "Ch'ang-lu Tsung-tse's Tso-Chan I and the "Secret" of Zen Meditation," p. 146
[392] Carl Bielefeldt, "Ch'ang-lu Tsung-tse's Tso-Chan I and the "Secret" of Zen Meditation," p. 146, and Heinrich Dumoulin, *Zen Buddhism: A History, Part 1: India and China,* pp. 166-170
[393]Carl Bielefeldt, "Ch'ang-lu Tsung-tse's Tso-Chan I and the "Secret" of Zen Meditation," pp. 146-147
[394] *Ibid.*, p. 147

resulted less in the actual rejection of formal meditation practice as it resulted in a conspicuous silence about the practice as it came to be taken for granted by the school.

4 CONCLUSIONS

Based on the above considerations, we can conclude that the incorporation of Buddhist meditative techniques into broader theoretico-methodological frameworks for the integration of first-person methods of experiential analysis into the cognitive sciences may be of great value to the cognitive neuroscience of subjective experience. However, it is of crucial importance that such an incorporation be based on a theoretical position which takes into full consideration the actual status of the various fields involved in such an endeavor, as well as the potential for contribution from other potentially relevant fields. As we have seen, the development of an epistemologically and ontologically consistent system for such a methodological integration requires the sincere appraisal of and incorporation of insights from of a wide range of disciplines, including neuroscience, dynamical systems theory, Husserlian phenomenology, Buddhist meditative systems, analytic philosophy of mind, and the wide range of disciplines which contribute to the cognitive sciences, including artificial intelligence.

While initial research taking advantage of the unique experiential aspects of meditation and their neurocognitive correlates has demonstrated the promise of such approaches, the full potential of such methods is only beginning to be realized. As a number of researchers and

theorists have stressed, the enhanced capability for (a) precise experiential observation and analysis, (b) the spontaneous generation of specific mental states, and (c) permanent modification of the neurodynamics of experience provided by meditation can provide a unique window into neurocognitive processes which are notoriously difficult to study. With the continued development of scientific research paradigms which incorporate Buddhist meditation and similar forms of contemplative practice, we may be able to gain unique insights into the interwined mind-brain-body-environment dynamics which underlie experience, selfhood, and consciousness itself.

Further, if theorists and researchers in the cognitive sciences were to take more seriously Buddhist claims regarding the epistemic values of meditation, new domains for contemplative neurophenomenological research may become available. However, in order for such claims to become the basis for neurophenomenological research, their epistemic legitimacy must be secured in a manner acceptable to the epistemic requirements held by the cognitive neuroscience community. While current scientific research validates a number of the Buddhist tradition's claims regarding the epistemic value of meditation based analysis of experience, a more thorough and sustained analysis of the neurocognitive effects of Buddhist meditative techniques is needed to fully verify their potential value in scientific research.

5 REFERENCES

Anālayo. *Satipaṭṭānha: The Direct Path to Realization*. Windhorse Publications, 2004.

Bayne, T. "Closing the Gap? Some Questions for Neurophenomenology." *Phenomenology and the Cognitive Sciences* 3, no. 4 (2004): 349–364.

Bielefeldt, C. "Ch'ang-lu Tsung-tse's Tso-Ch'an I and the'Secret'of Zen Meditation." *Traditions of Meditation in Chinese Buddhism* (1986): 129–161.

Bodhi, Bhikkhu, ed. *The Connected Discourses of the Buddha: A New Translation of the Samyutta Nikaya, Vol. 2*. Wisdom Pubns, 2000.

Bronkhorst, Johannes. *Two Traditions of Meditation in Ancient India*. Motilal Banarsidass,, 2000.

Carter, O. L, D. E. Presti, C. Callistemon, Y. Ungerer, G. B Liu, and J. D Pettigrew. "Meditation Alters Perceptual Rivalry in Tibetan Buddhist Monks." *Current Biology* 15, no. 11 (2005): R412–R413.

Chaminade, T., and J. Decety. "Leader or Follower? Involvement of the Inferior Parietal Lobule in Agency." *Neuroreport* 13, no. 15 (2002): 1975.

Chappell, D. W. "The Teachings of the Fourth Ch'an Patriarch Tao-hsin (580-651)." In *Early Ch'an in China and Tibet*, 89–129, 1983.

Clark, A. "The Dynamical Challenge." *Cognitive Science* 21, no. 4 (1997): 461–481.

Conze, Edward. *Buddhist Meditation*. Dover Publications, 2003.

Cox, C. "From Category to Ontology: The Changing Role of Dharma in Sarvāstivāda Abhidharma." *Journal of Indian Philosophy* 32, no. 5 (2004): 543–597.

Cox, Collett. *Disputed Dharmas: Early Buddhist Theories on Existence*. The International Institute for Buddhist Studies, 1995.

Craig, A. D. "How Do You Feel—now? The Anterior Insula and Human Awareness." (2009).

Davids, Caroline A. F. Rhys. *Buddhist Manual of Psychological Ethics*. Kessinger Publishing, LLC, 2003.

Davidson, R. J, J. Kabat-Zinn, J. Schumacher, M. Rosenkranz, D. Muller, S. F Santorelli, F. Urbanowski, A. Harrington, K. Bonus, and J. F Sheridan. "Alterations in Brain and Immune Function Produced by Mindfulness Meditation." *Psychosomatic Medicine* 65, no. 4 (2003): 564–570.

Demieville, P. "The Mirror of the Mind." In *Sudden and Gradual*, 13–40, 1987.

Dennett, D. C. "Heterophenomenology Reconsidered." *Phenomenology and the Cognitive Sciences* 6, no. 1 (2007): 247–270.

Dennett, D. "Whos on First? Heterophenomenology Explained." *Journal of Consciousness Studies, 10* 9, no. 10 (2003): 19–30.

Dennett, Daniel C. *Consciousness Explained*. 1st ed. Back Bay Books, 1992.

Depraz, N. "Confronting Death Before Death: Between Imminence and Unpredictability. Francisco Varela's Neurophenomenology of Radical Embodiment." *Phenomenology and the Cognitive Sciences* 1, no. 2 (2002): 83–95.

Depraz, N., F. J Varela, and P. Vermersch. "The Gesture of Awareness: An Account of Its Structural Dynamics." *Investigating Phenomenal Consciousness* (2000): 121–136.

Depraz, Natalie, Francisco J. Varela, and Pierre Vermersch, eds. *On Becoming Aware: A Pragmatics of Experiencing*. John Benjamins Pub Co, 2003.

Dreyfus, G., and E. Thompson. "Asian Perspectives: Indian Theories of Mind." In *The Cambridge Handbook of Consciousness*, 89–114, 2007.

Dumoulin, Heinrich. *Zen Buddhism: A History, India & China*. World Wisdom, 2005.

Farb, N. A.S, Z. V Segal, H. Mayberg, J. Bean, D. McKeon, Z. Fatima, and A. K Anderson. "Attending to the Present: Mindfulness Meditation Reveals Distinct Neural Modes of Self-reference." *Social Cognitive and Affective Neuroscience* 2, no. 4 (2007): 313–322.

Farrer, C., and C. D Frith. "Experiencing Oneself Vs Another Person as Being the Cause of an Action: The Neural Correlates of the Experience of Agency." *Neuroimage* 15, no. 3 (2002): 596–603.

Flanagan, Owen. *Consciousness Reconsidered*. The MIT Press, 1992.

———. *The Bodhisattva's Brain: Buddhism Naturalized*. A Bradford Book, 2011.

Foucault, Michel. *Ethics: Subjectivity and Truth*. Edited by Paul Rabinow. 1st ed. New Press, The, 1998.

Franco, Eli. "Introduction." In *Yogic Perception, Meditation and Altered States of Consciousness*. Austrian Academy of Sciences, 2009.

Frauwallner, Erich. *Studies in Abhidharma Literature and the Origins of Buddhist Philosophical Systems*. State University of New York Press, 2010.

French, R. M, and E. Thomas. "The Dynamical Hypothesis in Cognitive Science" (n.d.).

Froese, T. "Hume and the Enactive Approach to Mind." *Phenomenology and the Cognitive Sciences* 8, no. 1 (2009): 95–133.

Gallagher, S., and J. Brøsted Sørensen. "Experimenting with Phenomenology." *Consciousness and Cognition* 15, no. 1 (2006): 119–134.

Gallagher, S. "Phenomenology and Experimental Design: Toward a Phenomenologically Enlightened Experimental Science." *Journal of Consciousness Studies, 10* 9, no. 10 (2003): 85–99.

———. "Philosophical Conceptions of the Self: Implications for Cognitive Science." *Trends in Cognitive Sciences* 4, no. 1 (2000): 14–21.

———. "Sense of Agency and Higher-order Cognition: Levels of Explanation for Schizophrenia." *Cognitive Semiotics* 1 (2007): 33–48.

Gallagher, Shaun, and Dan Zahavi. *The Phenomenological Mind: An Introduction to Philosophy of Mind and Cognitive Science*. 1st ed. Routledge, 2008.

Garson, James. "Connectionism." In *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta. Winter 2010., 2010. http://plato.stanford.edu/archives/win2010/entries/connectionism/.

Van Gelder, T., and R. F Port. "It's About Time: An Overview of the Dynamical Approach to Cognition." *Mind as Motion: Explorations in the Dynamics of Cognition* 1 (1995): 1–43.

Gethin, R. "The Mātikās: Memorization, Mindfulness, and the List." In *In the Mirror of Memory: Reflections on Mindfulness and Remembrance in Indian and Tibetan Buddhism*, 149–172, 1992.

Gilbert, S. J, I. Dumontheil, J. S Simons, C. D Frith, and P. W Burgess. "Comment on 'Wandering Minds: The Default Network and Stimulus-independent Thought'." *Science* 317, no. 5834 (2007): 43b–43b.

Goleman, D. "The Buddha on Meditation and States of Consciousness, Part II: A Typology of Meditation Techniques." *Journal of Transpersonal Psychology* 4, no. 2 (1972): 151–210.

Gombrich, Richard F. *How Buddhism Began: The Conditioned Genesis of the Early Teachings*. 2nd ed. Routledge, 2005.

———. *Theravada Buddhism: A Social History from Ancient Benares to Modern Colombo*. 2nd ed. Routledge, 2006.

Gunaratana, Henepola. *A Critical Analysis of the Jhanas in Theravada Buddhist Meditation*. Buddha Dharma Education Association Inc., 1980. http://www.buddhanet.net/pdf_file/scrnguna.pdf.

Hamilton, S. *Identity and Experience: The Constitution of the Human Being According to Early Buddhism.* Luzac Oriental, 2001.

Hayward, Jeremy W., and Francisco J. Varela. *Gentle Bridges: Conversations with the Dalai Lama on the Sciences of Mind*. Shambhala, 2001.

Hoffman, F. J. "The Buddhist Empiricism Thesis." *Religious Studies* 18, no. 2 (1982): 151–158.

———. "The Pragmatic Efficacy of Saddhā." *Journal of Indian Philosophy* 15, no. 4 (1987): 399–412.

Hoffman, Frank J. *Rationality and Mind in Early Buddhism*. 2nd ed. Motilal Banarsidass, 2002.

Husserl, Edmund. *Cartesian Meditations: An Introduction to Phenomenology*. Translated by Dorion Cairns. 1st ed. Martinus Nijhoff Pub., 1977.

———. *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy: First Book: General Introduction to a Pure Phenomenology*. Translated by F. Kersten. 1st ed. Springer, 1983.

———. *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy: Third Book: Phenomenology and the Foundation of the Sciences*. Translated by T.E. Klein and W.E. Pohl. 1st ed. Springer, 2001.

———. *Logical Investigations, Vol. 1*. Edited by Dermot Moran. Translated by J.N. Findlay. New ed. Routledge, 2001.

———. *On the Phenomenology of the Consciousness of Internal Time (1893-1917)*. Translated by John Barnett Brough. 1st ed. Springer, 2008.

———. "Philosophie Als Strenge Wissenschaft." In *Aufsätze Und Vorträge (1911-1921)*, edited by H.R. Sepp and Thomas Nenon. 1st ed. Husserliana. Springer, 1986.

———. "Philosophy as Rigorous Science." In *Phenomenology and the Crisis of Philosophy*, translated by Quentin Lauer, 71–147. Translated By Quentin Lauer. Harpercollins, 1965.

Husserl, Edmund, and Karl Schuhmann. *Ideen Zu Einer Reinen Phänomenologie Und Phänomenologischen Philosophie: Erstes Buch: Allgemeine Einführung in Die Reine Phänomenologie (Husserl Gesammelte Werke)*. 1st ed. Springer, 1977.

Husserl, Edmund. *The Idea of Phenomenology*. Translated by L. Hardy. Softcover reprint of hardcover 1st ed. 1999. Springer, 2010.

———. *Zur Phänomenologie Des Inneren Zeitbewusstseins*. Edited by R. Boehm. 1st ed. Nijhoff, 1969.

Jack, A. I, and A. Roepstorff. "Introspection and Cognitive Brain Mapping: From Stimulus–response to Script–report." *Trends in Cognitive Sciences* 6, no. 8 (2002): 333–339.

Jackendoff, Ray S. *Consciousness and the Computational Mind*. 1st ed. Massachusetts Institute of Technology Press, 1987.

Jayatilleke, K.N. *Early Buddhist Theory of Knowledge*. 1st ed. Motilal Banarsidass, 2010.

Kalupahana, David J. *Causality: The Central Philosophy of Buddhism*. University of Hawai'i Press, 1986.

Keijzer, F. "Representation in Dynamical and Embodied Cognition." *Cognitive Systems Research* 3, no. 3 (2002): 275–288.

Khlentzos, Drew. "Challenges to Metaphysical Realism." Edited by Edward N. Zalta. *The Stanford Encyclopedia of Philosophy (Spring 2011 Edition)*, 2011. http://plato.stanford.edu/archives/spr2011/entries/realism-sem-challenge/.

Kuan, Tse-fu. *Mindfulness in Early Buddhism: New Approaches Through Psychology and Textual Analysis of Pali, Chinese and Sanskrit Sources*. 1st ed. Routledge, 2011.

Lama, Dalai et al. *Consciousness at the Crossroads: Conversations with the Dalai Lama on Brainscience and Buddhism*. Snow Lion Publications, 1999.

Lang, Karen. "Meditation as a Tool For Deconstructing the Phenomenal World." In *The Buddhist Forum, Vol. III*. 1st ed. Routledge, 1994.

Levine, J. "Materialism and Qualia: The Explanatory Gap." *Pacific Philosophical Quarterly* 64, no. 4 (1983): 354–361.

Lutz, A., J. D Dunne, and R. J Davidson. "Meditation and the Neuroscience of Consciousness: An Introduction." *The Cambridge Handbook of Consciousness* 19 (2007): 497–549.

Lutz, A., J. P Lachaux, J. Martinerie, and F. J Varela. "Guiding the Study of Brain Dynamics by Using First-person Data: Synchrony Patterns Correlate with Ongoing Conscious States During a Simple Visual Task." *Proceedings of the National Academy of Sciences* 99, no. 3 (2002): 1586.

Lutz, A., and E. Thompson. "Neurophenomenology: Integrating Subjective Experience and Brain Dynamics in the Neuroscience of Consciousness." *Journal of Consciousness Studies, 10* 9, no. 10 (2003): 31–52.

Lutz, A. "Toward a Neurophenomenology as an Account of Generative Passages: A First Empirical Case Study." *Phenomenology and the Cognitive Sciences* 1, no. 2 (2002): 133–167.

Mason, M. F, M. I Norton, J. D Van Horn, D. M Wegner, S. T Grafton, and C. N Macrae. "Wandering Minds: The Default Network and Stimulus-independent Thought." *Science* 315, no. 5810 (2007): 393–395.

McRae, J. R. "Yanagida Seizan's Landmark Works on Chinese Ch'an." *Cahiers d'Extrême-Asie* 7, no. 1 (1993): 51–103.

McRae, John. *The Northern School and the Formation of Early Chan Buddhism*. University of Hawaii Press, 1987.

Merleau-Ponty, Maurice. *Phenomenology of Perception*. 2nd ed. Routledge, 2002.

———. *The Structure of Behavior*. Duquesne Univ Pr, 1983.

Moran, Dermot. "Husserl's Transcendental Philosophy and the Critique of Naturalism." *Continental Philosophy Review* 41, no. 4 (2008): 401–425.

———. *Introduction to Phenomenology*. 1st ed. Routledge, 2000.

Nagel, T. "What Is It Like to Be a Bat?" *The Philosophical Review* 83, no. 4 (1974): 435–450.

Nananda, Bhikkhu. *Concept and Reality in Early Buddhist Thought*. 1st ed. Pariyatti Press, 1997.

Noë, A., and E. Thompson. "Are There Neural Correlates of Consciousness?" *Journal of Consciousness Studies* 11, no. 1 (2004): 3–28.

Novak, Joseph. "A Sense of Eidos" (n.d.). http://www.eidos.uwaterloo.ca/pdfs/novak-eidos.pdf.

Overgaard, M. "On the Naturalising of Phenomenology." *Phenomenology and the Cognitive Sciences* 3, no. 4 (2004): 365–379.

Overgaard, Morten. "An Integration of First-person Methodologies in Cognitive Science." *Journal of Consciousness Studies* 15, no. 5 (2008): 100–120.

Piatigorsky, Alexander. *The Buddhist Philosophy of Thought*. Rl Innactive Titles, 1984.

Raichle, Marcus E. "The Brain's Dark Energy." *Science* 314, no. 5803 (November 24, 2006): 1249–1250.

Ronkin, Noa. *Early Buddhist Metaphysics*. Reissue. Routledge, 2010.

Roy, J. M, J. Petitot, B. Pachoud, and F. J Varela. "Beyond the Gap: An Introduction to Naturalizing Phenomenology." In *Naturalizing Phenomenology: Issues in Contemporary Phenomenology and Cognitive Science*, 1–80. 1st ed. Stanford: Stanford University Press, 1999.

Rudrauf, D., A. Lutz, D. Cosmelli, J. P Lachaux, and M. Le Van Quyen. "From Autopoiesis to Neurophenomenology: Francisco Varela's Exploration of the Biophysics of Being." *Biological Research* 36, no. 1 (2003): 27–65.

Salmon, N. "How Not to Become a Millian Heir." *Philosophical Studies* 62, no. 2 (1991): 165–177.

Shih, H. "Ch'an (Zen) Buddhism in China Its History and Method." *Philosophy East and West* 3, no. 1 (1953): 3–24.

Sokolowski, Robert. *The Formation of Husserl's Concept of Constitution.* M. Nijhoff, 1964.

SØrensen, J. B.Ø. "The Alien-hand Experiment." *Phenomenology and the Cognitive Sciences* 4, no. 1 (2005): 73–90.

Swearer, D. K. "Two Types of Saving Knowledge in the Pāli Suttas." *Philosophy East and West* 22, no. 4 (1972): 355–371.

T'ien-t'ai Chih-i. *The Great Cessation-and-Contemplation (Mo-ho Chih-kuan)*. Translated by Paul L. Swanson. Tokyo: Kosei Publishing Co., n.d.

Taylor, Véronique A, Véronique Daneault, Joshua Grant, Geneviève Scavone, Estelle Breton, Sébastien Roffe-Vidal, Jérôme Courtemanche, et al. "Impact of Meditation Training on the Default Mode Network During a Restful State." *Social Cognitive and Affective Neuroscience* (March 24, 2012). http://scan.oxfordjournals.org/content/early/2012/03/24/scan.nsr087.

Thagard, Paul. *Mind: Introduction to Cognitive Science*. 2nd ed. A Bradford Book, 2005.

Thompson, E. "Life and Mind: From Autopoiesis to Neurophenomenology. A Tribute to Francisco Varela." *Phenomenology and the Cognitive Sciences* 3, no. 4 (2004): 381–398.

———. "Neurophenomenology and Contemplative Experience." *The Oxford Handbook of Science and Religion* (2006): 226–235.

———. "Neurophenomenology and Contemplative Experience." *The Oxford Handbook of Science and Religion* (2006): 226–235.

Thompson, E., and F. J Varela. "Radical Embodiment: Neural Dynamics and Consciousness." *Trends in Cognitive Sciences* 5, no. 10 (2001): 418–425.

Thompson, Evan. *Mind in Life: Biology, Phenomenology, and the Sciences of Mind*. Belknap Press of Harvard University Press, 2010.

Varela, F. J. "Neurophenomenology: A Methodological Remedy for the Hard Problem." *Journal of Consciousness Studies* 3, no. 4 (1996): 330–349.

———. "The Specious Present: A Neurophenomenology of Time Consciousness." *Naturalizing Phenomenology: Issues in Contemporary Phenomenology and Cognitive Science* (1999): 266–314.

Varela, F. J. "The Naturalization of Phenomenology as the Transcendence of Nature: Searching for Generative Mutual Constraints." *Alter: Revue De Phénoménologie* 5 (1997): 355–385.

Varela, Francisco J., Evan T. Thompson, and Eleanor Rosch. *The Embodied Mind: Cognitive Science and Human Experience*. New ed. The MIT Press, 1992.

Wallace, B. A. "A Science of Consciousness: Buddhism (1), the Modern West (0)." *Pacific World: Journal of the Institute of Buddhist Studies* (2002): 15–31.

———. "Training the Attention and Exploring Consciousness in Tibetan Buddhism." In *Toward a Science of Consciousness III: The Third Tucson Discussions and Debates*, 441–448. Cambridge: Massachusetts Institute of Technology, 1999.

Wallace, B. Alan. *Contemplative Science: Where Buddhism and Neuroscience Converge*. 1st ed. Columbia University Press, 2009.

———. *The Taboo of Subjectivity: Toward a New Science of Consciousness*. Oxford University Press, USA, 2004.

Walshe, Maurice, trans. *The Long Discourses of the Buddha: A Translation of the Digha Nikaya*. 2nd ed. Wisdom Publications, 1995.

Watanabe, Fumimaro. *Philosophy and Its Development in the Nikāyas and Abhidhamma*. Motilal Banarsidass, 1983.

Welton, Donn, ed. *The New Husserl: A Critical Reader*. First ed. Indiana University Press, 2003.

Zahavi, D. “Husserl’s Intersubjective Transformation of Transcendental Philosophy.” *JBSP. Journal of the British Society for Phenomenology* 27, no. 3 (1996): 228–245.

———. “Naturalized Phenomenology.” *Handbook of Phenomenology and Cognitive Science* (2010): 2–19.

———. “Phenomenology and the Project of Naturalization.” *Phenomenology and the Cognitive Sciences* 3, no. 4 (2004): 331–347.

Zahavi, Dan. *Husserl’s Phenomenology*. 1st ed. Stanford University Press, 2003.

Zeuschner, R. B. “The Understanding of Mind in the Northern Line of Ch’an (Zen).” *Philosophy East and West* 28, no. 1 (1978): 69–79.